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ABSTRACT

Despite the widespread attention given to education reform, no substantial knowledge base has existed for identifying and implementing specific effective reforms. This document, the first of three volumes, presents findings of a study that sought to identify the essential mechanics of effective reforms for students at risk. The study also identified the incentives for and barriers to implementing and sustaining reforms and their effects on students. It focused on three aspects of school reforms: raising academic standards, enhancing the academic climate of schools and out-of-school environments, and preventing dropouts through the provision of second-chance programs. This volume reviews study findings and discusses their implications for policy, practice, and needed future research. Data were gathered from a review of research for the last 30 years and visits of 12 school sites designated as effective in working with at-risk students. Results show that schools that function as communities have a shared vision, purpose, and shared values; high levels of communication, trust, and full participation; and commitments to caring, incorporation of diversity, and teamwork. High-reliability organizations develop clear and widely shared central goals; have staff who believe that success is critical; stress intensive recruitment and ongoing training; create interdependence among staff; utilize standard operating procedures as far as extant knowledge allows; prize vigilance against lapses and flexibility toward rules; and are invariably valued by their supervising organizations. Implementation reforms need a variety of monetary, personnel, material, and political resources. Implications for policy and practice include: (1) set clear and agreed-upon goals and objectives; (2) align federal, state, and local education programs to serve students; (3) maintain external sources of support for schoolwide programs (e.g., Title I); (4) upgrade teacher-training and staff-development programs; and (5) foster the sense of community among students and staff. A list of publications derived from the study is included. (Contains 540 references.) (LMI)

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Studies of Education Reform

Education Reform and Students At Risk:

Findings and Recommendations

Volume 1

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Preface

Education reform has marked America's social and political landscape since the publication in 1983 of *A Nation at Risk* (National Commission on Excellence in Education). Presidents, congressional leaders, state and local policymakers, educators, parents, and business leaders have all endorsed reforms in schools, and a wide-ranging array of reform efforts are underway currently in thousands of schools across the nation. Despite this attention to reform, however, no substantial knowledge base has existed for identifying and implementing particular effective reforms. For this reason, in 1991 the Congress requested the Department of Education's Office of Educational Research and Improvement (OERI) to investigate education reform. This study, focusing on education reforms for students at risk, was 1 of the 12 that were funded by OERI later that year.

The American Institutes for Research (AIR) and the Johns Hopkins Center for the Education of Students Placed at Risk (CRESPAR) collaborated on all aspects of this study—from the planning and convening of a national conference and the commissioning of expert papers on key topics, to the conduct of case studies of 12 model and 6 replicate school sites nationwide and the preparation of reports, books, articles, and practical guides for education practitioners. In carrying out this work, AIR and CRESPAR drew heavily upon the findings of their past evaluative studies of dropout prevention and Title I (formerly Chapter 1) programs to identify model sites and to probe beneath the veneers of particular curriculums, collaborative arrangements, and school-based management structures. Our primary aim was to reveal the essential mechanics of effective reforms for students at risk. Secondary aims included documenting the incentives for and barriers to implementing and sustaining these reforms and their effects on students.

In Volumes II-IV of this final report, we present detailed documentation for our case study sites, an overview of our research design and methodology, and a compilation of our field instruments and developed products. In this first volume, we review our findings and present their implications for policy, practice, and needed future research.

Acknowledgments

The American Institutes for Research (AIR) and the Johns Hopkins University Center for Research on the Education of Students Placed at Risk (CRESPAR) gratefully acknowledge the cooperation of the school staff and students who opened their schools and their views on schooling to us during this evaluation. We also extend our gratitude to the experts in the field who supplemented our efforts with papers, presentations, and advice that helped to ensure our success. These experts included:

- Edmund Gordon
- G. Alfred Hess
- Grayson Noley
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- Joseph Grannis
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In addition, we acknowledge the more than 200 attendees and participants at our national conference on education reforms and students at risk who invested their time, energy, and creative thinking in this venture during its first year. Finally, special thanks are deserved by the Contracting Office's Technical Representative for this project, Dr. Harold Himmelfarb, whose insights, trust, and willingness to be part of the team contributed greatly to the work.

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List of Study Products

Books and Monographs

Schools and Students at Risk: Context and Framework for Positive Change

Edited by Robert J. Rossi (336 pages). This book is organized into four parts. Part I, "Context and History of Reform Efforts," offers a distinctive consideration of the range of factors that put children and youth at risk of educational failure. It also provides a comprehensive review of educational responses to the problems of at-risk youth; Part II, "Culture and Cultural Conflict in School," describes the dangers, for students, of a system that fails to recognize and appreciate their distinctive abilities to learn and includes chapters that focus specifically on the cultural conflicts and historical experiences of American Indian, Hispanic, and African-American children and youth in schools; Part III, "Reforms in Process: From the School to the System," provides a review of the latest reform efforts at the school, district, and state levels; and Part IV, "Frameworks for Change," offers new models and analyses based on the most current information about the role of schools and how they may best serve students who are at risk (New York: Teachers College Press, 1994).

Educational Reforms and Students at Risk: A Review of the Current State of the Art

Edited by Alesia Montgomery and Robert J. Rossi (158 pages). This book is divided into three sections: "Becoming at Risk of Failure in America's Schools," which integrates research on students at risk into a conceptual framework for addressing the societal, home, and school-related factors that influence academic success; "Rising to the Challenge: Emerging Strategies for Educating Students at Risk," which analyzes both traditional and innovative school responses to the challenge of educating students at risk; and "Barriers and Pathways to Meaningful Reforms: The Need for High Reliability Organizational Structures," which examines the obstacles to reform implementation and suggests steps

toward developing school organizational structures that may help ensure higher student success rates (Washington, D.C.: OERI, 1994).

Proceedings of the 1992 National Conference on Educational Reforms and At-Risk Students

Prepared by Pamela Vergun (67 pages). This volume contains three sections corresponding to the three conference sessions: "Building On and Integrating Cultural Diversity"; "Encouraging School Effectiveness and Student Persistence"; and "Barriers and Incentives to Implementing Reforms" In each session, leading experts in the field addressed and presented various issues and ideas. Summaries of small-group discussions on a variety of topics are presented. A special section contains the keynote address given by the Superintendent of the San Francisco Unified School District, Dr. Waldemar (Bill) Rojas (Palo Alto, CA: American Institutes for Research, 1992).

Articles and Commissioned Papers

"What We Must Do for Students Placed At Risk"

This article by Robert J. Rossi and Samuel C. Stringfield presents findings and specific recommendations related to implementing school reforms for students at risk (*Phi Delta Kappan*, September 1995).

[The following 10 papers commissioned by this project are available from ERIC/CUE, Box 40, Teachers College, Columbia University, New York, NY 10027, telephone (800) 601-4868.]

Chart(er)ing Urban School Reform Philadelphia Style

By Michelle Fine. The author relates experiences and accomplishments of efforts made to create more intimate and more challenging learning environments in urban secondary schools (47 pages). ERIC Reference No. UD 029 423.

Chicago School Reform: A Response to Unmet Needs of "At-Risk" Students

By G. Alfred Hess, Jr. Recounted are the challenges and early returns from the move to reform governance and administrative practices in all Chicago schools, thereby providing additional insights into the interplay of political and systemic frames of reference (36 pages). ERIC Reference No. ED 364 611.

Children At Risk in America's Rural Schools: Economic and Cultural Dimensions

By Alan J. DeYoung. A description of the historical, demographic, and social and economic trends that have shaped the schools and systems in our rural areas where the majority of poor children and youth attend school. The author takes us inside one system to examine how school staff and the community at large are attempting to improve student experiences (74 pages). ERIC Reference No. ED 362 342.

Educational Reform and American Indian Cultures

By Grayson Noley. Cultural conflicts occur daily in school settings for American Indian children and youth. Certain initiatives and current programs are described that are rooted in the American Indian tradition and history of education, and, if continued and nurtured, may finally address the learning needs of American Indians (46 pages). ERIC Reference No. ED 362 341.

Educational Reforms for At Risk Students

By Joseph C. Grannis. Provided is an overview of a citywide dropout prevention initiative, noting how the dynamics of implementation and evaluation may work in contexts that are also politically charged (90 pages). ERIC Reference No. ED 360 428.

Educational Reforms for Students At Risk: Cultural Dissonance as a Risk Factor in the Development of Students

By Edmond W. Gordon and Constance Yowell. Dissonance between student and school cultures negatively affects the levels of individual achievement and general development that are attained (30 pages). ERIC Reference No. ED 366 696.

Keeping High-Risk Chicano Students in School: Lessons from a Los Angeles Middle School Dropout Prevention Program

By Russell W. Rumberger and Katherine Larson. A description of a one-school project aimed at promoting learning and retention among Hispanic middle school students is presented (55 pages). ERIC Reference No. RC 019 290.

Look Me in the Eye: A Hispanic Cultural Perspective on School Reform

By Rafael Valdivieso and Siobhan Nicolau. Cultural conflicts occur daily in school settings for Hispanic children and youth. This paper reviews the histories of the various Hispanic groups in the United States and concludes by presenting a list of needs that must be addressed in any education reform program for the members of these groups (47 pages). ERIC Reference No. ED 362 342.

Reformulating Educational Reform: Toward the Proactive Schooling of African-American Children

By A. Wade Boykin. The cultural conflicts that occur daily in school settings for African-American children and youth are described. Dr. Boykin urges that schools adopt a "talent development" approach, based on a deep-structure perspective of cultural diversity (89 pages). ERIC Reference No. ED 367 725.

Caring is Not Enough: Assessing Community in High Schools

By Alesia Montgomery. This paper describes preliminary results from the first phase of an exploratory study that seeks to define and understand sense of community on high school campuses. These findings, from various teacher, administrator, and student focus groups, have been used to develop tools to assess community and the resources necessary to maintain community in high schools (22 pages). ERIC Reference No. UD 030 440.

Executive Summary

By the year 2020, the majority of students in America's public schools will be living in circumstances traditionally regarded as placing them at risk of educational failure.[1] Many will be poorly housed, undernourished, subject to the effects of others' abuse of drugs, and provided with few positive adult role models. A greater number of young people will be neglected or abused by those adults who enter their lives, and—because misunderstandings, insufficient resources, or a lack of regard for individual differences and capabilities—treated harshly by the very institutions that ostensibly were created to help them.[2]

There are at least three rationales for improving our schools' readiness to meet the projected educational challenges posed by these demographic trends. The first is related to the transmission of societal values. Throughout our history, people have supported the view that all citizens must be taught to read the great religious, philosophical, historical, and political works of their heritage. Early labor union organizers, for example, frequently argued that workers needed Sundays off from work so that they could go to "Sunday schools" and learn to read the Bible. Without reading and reasoning skills, the knowledge and mores we have established as a society will be endangered, and the opportunities to extend these systems of belief will be cut short.

A second rationale for improving the schooling experiences of at-risk students is linked to our democratic way of life. How can a democracy survive if a significant percentage of its citizens cannot read and place in perspective the public debates of the times? A citizenry needs information, but it also must be able to interpret this information and make

1. Gary Natriello, Edward L. McDill, & Aaron M. Pallas, Schooling Disadvantaged Children: Racing Against Catastrophe (New York: Teachers College Press, 1990).
2. Alesia F. Montgomery and Robert J. Rossi, "Becoming at Risk of Failure in America's Schools," in Robert J. Rossi, ed., Schools and Students at Risk: Context and Framework for Positive Change (New York: Teachers College Press, 1994).

thoughtful judgments. A democracy cannot survive if its citizens lack the skills to seek common ground through deliberation and consensus-building.

The third rationale for better serving at-risk students is provided by the inevitable consequences of moving into a post-modern, high-tech, world economy. Over the last 20 years, the number of highly paid, low-skill jobs in the U.S. has greatly diminished because of the powerful combination of automated production processes at home and access to very low-wage factories located in developing nations. As a result, between 1973 and 1992, the average annual income of young U.S. male high school dropouts fell by an alarming 49 percent.[3] When young people do not succeed in school, the economic consequences to individuals and to the country are staggering.

These three rationales converge on one central thesis. As a nation, we need to find ways to improve the quality of education for all citizens, particularly those young people who are most at risk of failure.

In this study for the Office of Educational Research and Improvement, we have reviewed the research from the past 30 years and examined ongoing experiences of reform initiatives.[4] We have conducted case studies at 18 schools that had previously been designated as effective in working with at-risk students.[5]

We have observed in classrooms, in halls, and on playgrounds; interviewed school and central office administrators and program developers; and conducted focus groups with teachers, students, and parents. Frequently, we have left sites feeling very good about the future—the programs in place were working well. However, this century has seen many widely celebrated "lighthouse" schools and exemplary school improvement programs,[6] few of which have resulted in any lasting improvements in the education of large numbers of disadvantaged young people. We knew from the start that, for our study to be of use, more than simple descriptions of successes would be needed. We have aimed to identify broad, over-arching conditions that must be met in transporting isolated successes to the entire population of schools serving at-risk students. These conditions have been the focus

3. Samuel C. Stringfield, "Attempts to Enhance Students' Learning: A Search for Valid Programs and Highly Reliable Implementation Techniques," School Effectiveness and School Improvement, vol. 6, 1995, pp. 67-96.

4. Rossi, op. cit.; and Robert J. Rossi and Samuel C. Stringfield, Educational Reforms and Students at Risk: Final Research Report, vols. I-III (Washington, D.C.: Office of Educational Research and Improvement, U.S. Department of Education, forthcoming).

5. Samuel C. Stringfield, Linda Winfield, Mary Ann Millsap, Michael Puma, Beth Gamse, and Bonnie Randall, Urban and Suburban/Rural Special Strategies for Educating Disadvantaged Children: First Year Report (Washington, D.C.: U.S. Department of Education, 1994); and Robert J. Rossi, Effective Strategies for Keeping Students in School: Evaluation of Projects Funded by the School Dropout Demonstration Assistance Program (Washington, D.C.: Office of Policy and Planning, U.S. Department of Education, forthcoming). We are grateful to the schools that have participated both in our previous national evaluations and inthe current studies of reforms for at-risk students..

6. Eugene Randolf Smith and Ralph W. Tyler, Adventures in American Education, Vol. III: Appraising and Recording Student Progress (New York: Harper, 1942); for a review, see Larry Cuban, How Teachers Taught, 2nd ed. (New York: Teachers College Press, 1993).

of our work, and we have classified them into two categories: community in schools and schools as high-reliability organizations.

Community in Schools

"Community" is concerned with the deep-structure fabric of interpersonal relations.[7] Soundly woven, this fabric permits a shared frame of reference and supports mutual expectations.

The relations among adults in schools provide models of behavior for students. The ways in which teachers, administrators, and classified staff persons relate to students also define the conditions within which teaching and learning of specific subject matters take place. In addition, these relations determine a school's readiness to undertake and sustain efforts to achieve shared goals (e.g., making the campus a safe haven or raising reading achievement scores), and they define a school's image in its neighborhood—for parents, nonparent residents, local businesspeople and shopkeepers, and community-based service organizations. The quality of these relations is critical to all facets of school operation, yet it is typically taken for granted. Just as typically, in our experience, the quality of these relations is much lower than it must be if schools are to be productive.

In previous studies and in this one, we noted several attributes of interpersonal relations in schools that were associated with effective programs or periods of program effectiveness. Students felt cared about and respected, teachers shared a vision and a sense of purpose, teachers and students maintained free and open communication, and all parties shared a deep sense of trust. Visits to the effective schools and to other sites confirmed that the weakening or absence of these attributes often accompanies program failure. Building on studies of community in work and school settings,[8] we have identified 10 elements that characterize adult, student, and adult/student relations in schools that are communities:

- shared vision;
- participation;
- shared sense of purpose;
- caring;
- shared values;
- trust;
- incorporation of diversity;
- teamwork;
- communication;

7. John W. Gardner, Building Community (Washington, D.C.: Independent Sector, 1991).
8. For example, Robert J. Rossi and Mark A. Royal, Measuring Workplace Community: Final Report to the W.K. Kellogg Foundation (Palo Alto, Calif.: American Institutes for Research, 1994).

- respect and recognition.

Schools that consciously work at strengthening these elements are, in our view, building the necessary foundation for excellence.

For schools serving many poor students, community building presents special challenges. Personal, monetary, and material resources in these schools are likely to be stretched thin, so that opportunities for investments in community building are often severely limited. In addition, accommodating the ethnic, cultural, and socioeconomic diversity that is typical of these settings requires special talent and dedication. The sites we studied offered distinctive examples of achievement in terms of the dimensions listed above.

Shared vision, shared purpose, and *shared values* were most often the result of efforts to define common goals for education and for working with students. In some cases, forward-looking principals who were willing to work persistently (or staff persons themselves) succeeded in changing staff attitudes and building emotional and practical supports among the staff for student-related outcomes. In one case in which the "founding" principal had left, staff members continued to shape their vision for the site in terms of shared values originating in their commitments to their students and to one another.

Strong principals are often those who have succeeded in achieving shared vision and purpose by listening to and working with their staffs, students, and parents to reach consensus. Focusing on a particular program or problem has also served to bring the various parties together. In one site, an emphasis on cooperative learning gradually spread to the entire faculty and staff, welding the adults at the school into a family. At another site, the infusion of a private school curriculum into all grades of a public school provided the neighborhood with new pride and staff with a shared context for discussions of learning objectives and student progress. At an alternative school site that was created by eight school districts in a rural area to address the needs of at-risk students, the various principals and staff took on the challenge and fashioned a unified approach together with their students.

Incorporation of diversity was a hallmark of all the successful sites we visited. Teachers and administrators actively sought out the distinctive talents of their students, and they have come to see great value in a diversity of linguistic abilities. In one site, problem-solving discussions among students could be heard in Vietnamese and Spanish; at another, aides "talked like the students talk" on the playground to facilitate conversation and a sense of closeness. Cultural celebrations are almost the norm in these sites, and the most successful schools have developed strong outreach efforts to involve area families and residents in their programs.

Communication and participation are closely related, and open-door policies and open forums for discussion at staff meetings were featured ingredients at the most successful schools we studied. New teachers quickly found mentors and endless opportunities to

learn about the school setting and instructional approach. Staff teams, often with parent participants, recommended new strategies or modifications in current practices. Staff development programs strengthened capabilities for taking part in leadership activities at the sites. At one school, for example, the principal selected different teachers to attend different workshops and to report on them, thus building their knowledge and self-confidence. Students at these sites were also regarded as full participants in site activities, and every effort was made to solicit their views on how well programs were working and what could be done to improve them. At one site, no student's problem was "off the table," and individual and group discussions with students were often held in informal settings to encourage active interchange of comments and ideas.

Caring, trust, and *teamwork* are in some ways the results of effective communication and active participation by all parties at the school site. Many of the most impressive sites we studied had created family networks within and across grades or classes. Staff members worked hard to engender feelings of trust in their students and colleagues. At one site, for example, teachers brought their classes together regularly and organized a "buddy system" among older and younger students on the campus. At another site, teachers, vocational specialists, and personnel at student job sites formed teams to bolster students' self-confidence and increase opportunities for learning. At a third, school staff members regularly greeted every student every morning—with a handshake, hug, and a review of the previous day's progress or that day's plans. Among staff themselves, caring, trust, and teamwork often arose as a result of sharing the challenges posed by new programs, students with special needs, or neighborhood or district problems.

Respect and *recognition* were much in evidence in the effective education programs for at-risk students that we visited. Even when new programs are being implemented, lack of respect for students, as indicated by harassment and severe punishments, can kill any chance of positive results. Lack of mutual respect and recognition among staff members also weakens the social fabric of the school and lowers morale. When positive performance is affirmed, both teachers and students strive to do their best. At one model site, a principal who was relatively new to the campus chose to demonstrate his respect for the staff and the students by letting them orient him to their successful implementation of Robert Slavin's Success for All program.[9]

Schools as High-Reliability Organizations

A sense of community in schools, as modeled in varying degrees by the 18 sites visited in our study, provides the necessary foundation for positive change at the building level. However, we also recognized that the introduction and sustenance of positive change requires district- and state-level supports that are consistent with campus priorities and

9. Robert Slavin et al., Success for All: A Relentless Approach to Prevention and Early Intervention in Elementary Schools (Arlington, Va.: Education Research Service, 1992).

constant in their emphasis. In developing a framework for examining these supports, we looked at organizations that are expected to meet the daunting criterion of virtually 100 percent failure-free operation.

Air traffic control towers and regional electric power grids are two examples of High-Reliability Organizations (HROs) described by Todd LaPorte and Paula Consolini.[10] Karlene Roberts also described characteristics of HROs in diverse settings,[11] and one of the authors of this article examined the probable educational implications of an "HRO response" to the increasing demands that the education system provide high-quality instructional services to all students.[12]

In our study of effective programs, we examined each successful case for evidence that curricular and instructional decisions were being made and supported in ways that were consistent with the evolved characteristics of organizations required to operate at high reliability. We found much support for the HRO construct, and, not surprisingly, for its dependence on an established network of high-quality relations (i.e., community) among all stakeholders on campus. While HRO characteristics are dynamic, and any presentation of them risks conveying an artificially static picture, we believe that the following characterizations and examples are illuminating.

1. The central goals of HROs are clear and widely shared. On board a nuclear aircraft carrier, the primary mission is to launch and land military aircraft. For a water company, it is to provide clean, drinkable water to all people being served. The principal at one of the sites we studied regularly described the school's goal as preparing young people to be highly successful in the world of commerce. The core task of another site was to ensure that all students would be reading at or above grade level by the end of third grade. At a third site, the core task was to provide a high-quality, demanding education program within an organization that gave each student the maximum opportunity to pass each grade successfully and graduate.

2. All staff in HROs share a belief that success is critical and that failure to achieve core tasks would be absolutely disastrous. We found similar drives permeating the most successful schools and programs in our study. Parents, teachers, and administrators worked on the various reforms as though academic and prosocial success were critical. At some of our less successful sites, failures were sometimes anticipated, and staff members typically associated them with failings of the students or their home situations.

3. HROs stress intensive recruitment and ongoing training. To meet the criterion of zero catastrophic errors, organizations must be able to rely on the staff's professional decision

10. Todd LaPorte and Paula Consolini, "Working in Practice but Not in Theory: Theoretical Challenges of 'High-Reliability Organizations,' "Journal of Public Administration Research and Theory, vol. 1, 1991, pp. 19-48.

11. Karlene Roberts, "Some Characteristics of High Reliability Organizations," Organizational Science, vol. 1 (2), pp. 1-17 and idem, New Challenges to Understanding Organizations (New York: Macmillan, 1993).

12. Stringfield et al., op. cit.; and Stringfield, op. cit.

making. Like high-reliability noneducational organizations, the exemplary sites we visited had two universal features: they recruited with unusual energy and care, and they participated in unusual levels of ongoing staff development. As part of its yearly routine, the leadership team at one of the sites we studied participated in an average of two weeks per year of intensive training, one week of which is shared with the entire school staff. The staff of another site had arranged an elaborate series of staff development exercises each year, some conducted by program developers, some by local university faculty, and the remainder planned and led by "senior" faculty members at the site.

4. HROs build an interdependence among staff. Especially during times of peak workloads, staff members are able to assume a close interdependence of operations—usually rooted in the strong sense of community that is established during nonpeak times. For example, traditional "norms of autonomy" had been broken down within the ninth-grade team at a site belonging to the Coalition of Essential Schools. We have seen this sort of interdependence at sites that included charter schools, school-within-a-school arrangements, and alternative schools.

5. HROs extend formal, logical decision analysis, evolved into standard operating procedures, as far as extant knowledge allows. This is not at all a celebration of bureaucracy for its own sake. Rather, it is an effort to standardize best proven practice in some areas so as to focus human attention on performing nonstandard tasks well. The curricular frameworks that were used to guide mathematics instruction at two California sites in our study declared that some things had to be universal. Such decisions helped shape the next level of decisions—which were still considerable—that had to be made by the professional staff. It is important to note that the frameworks provided a level of assurance to each teacher that each year's incoming students would share a common body of knowledge. Such assurance allows a teacher to cover additional material more rapidly or in greater depth. We have found that similar standard curricular and organizational supports can be supplied by well-known national programs, such as Core Knowledge[13] and Success for All.[14]

6. HROs prize vigilance against lapses and flexibility toward rules. Since lapses cannot always be avoided, HROs must prevent them from cascading into larger problems. A child who has not learned to read by third grade, for example, creates a series of complex problems involving his ability to use text and his self-concept. He often generates severe instruction/management problems for upper-grade teachers. What might have been a small problem if treated early in school can become a series of major problems. Some of our sites had adopted instructional programs such as Reading Recovery[15] and thus were especially vigilant when it came to early student failures. In other sites, interdisciplinary

13. Core Knowledge Sequence (Charlottesville, Va.: Core Knowledge Foundation, 1995).

14. Nancy A. Madden et al. "Success for All: Longitudinal Effects of a Restructuring Program for Inner-City Elementary Schools," American Educational Research Journal, vol. 30, 1993, pp. 123-48.

15. Gay Su Pinnell, "Reading Recovery: Helping At-Risk Children Learn to Read," Elementary School Journal, vol. 90, 1989, pp. 161-82.

teams that met on a frequent basis often worked to detect students' problems early, to seek solutions, and to support each student until he or she was again able to handle current assignments.

7. HROs are invariably valued by their supervising organizations. This valuing typically results from the emphasis on long-term reliability over short-term "efficiencies." The program developers with whom we spoke quickly acknowledged that there were whole districts in which their programs could not prosper. Success does not happen in isolation. Rather, successful schools find support from a community of adults working within the school, from the surrounding community, from district administrators, from state-level decision makers, and from the program developers themselves. The most successful sites we visited had strong, ongoing connections to program developers.

Resources Required to Implement Reforms

A variety of resources are necessary to implement the sorts of reforms for students at risk that we have reviewed and studied. These resources include monetary resources, but are not restricted to dollars invested by school districts, communities, and private sources. Many other types of resources played an important role in implementing reforms, such as people/personnel resources, material resources, and political resources.

Monetary resources. Both internal (e.g., local budgets) and external (e.g., foundation grants, state funds), monetary resources were relied upon for reform implementation by the sites we studied. However, no sites relied solely upon outside monetary resources; to varying degrees, all sites made use of external funds. The categorical nature of many public and private funding streams, however, typically led to a patchwork approach to building project budgets. In some cases, external funds provided important "add-ons" to ongoing reform efforts.

People/Personnel resources. In virtually every site we studied, the building principal charged with general oversight of the schools was a "believer"; that is, he or she was willing to lend support or to take credit for the program's successes because he or she believed it had improved the teaching-learning situation in some way. In addition, each site we visited that evidenced success with students benefited directly and importantly by staff persons trained in the particular school-program approach. Other people/personnel resources that proved effective in implementing reform efforts included paid classroom aides, parent/adult volunteers, community volunteers, extra staff time, reform-tested advisors, and new teacher "pipelines" (professional networks to colleges or universities).

Material resources. Each school we studied provided the required reform-related instructional materials (books, supplementary reading materials, manipulables) in addition to the typical array of general instructional materials. Computers were not usually found in the schools we studied, although in one or two cases were becoming increasingly prominent. School facilities were usually typical for the school's region, although staff at a

number of the sites had done a considerable amount of work to create attractive and comfortable surroundings for students.

Political resources. Affiliation with a college or university afforded some of our sites with additional monetary resources and considerable credibility. In addition, private-sector affiliations with local companies and firms provided schools with a degree of insulation from district-level policies, procedures, and requirements.

Implications for Policy and Practice

The actions of individual schools alone will, in our opinion, not be sufficient to ensure that students placed at risk receive a quality education. In addition to the needs for some comparability across schools in the levels of resources available to all students, many organizational factors common to all schools are in need of attention:

1. Set clear and agreed-upon goals and objectives at the national, state, and school levels. Consensual goals and objectives set for educational practice should be regarded as the basis for a contract with our students, and such a contract should ensure that no student will be allowed to fail.

2. Align federal, state, and local education programs to serve students. Research and evaluation efforts are needed that measure, on a regular basis, the cross-level coherence in terms of student learning of program and policy efforts being made at the federal, state, and local levels.

3. Maintain external sources of support for schoolwide programs (e.g., Title I). Special-purpose funding streams that allow schools maximum flexibility in directing the specific uses of educational resources that are provided are critical components of an integrated service system for students at risk.

4. Upgrade teacher training and staff development programs. Substantial funds provided at the federal, state, and district levels must be earmarked for the continuous improvement of these programs. In addition, the development of professional and collegial networks among teachers should be encouraged.

5. Foster the development of sense of community among students and staff. At-risk students' membership in healthy communities that respect diversity are the keys to survival and the means to lifelong learning. Without a sense of community in our schools, the best efforts and practices of education reformers are likely to be wasted.

Our nation faces very serious challenges in serving its at-risk students. We have made progress in isolated areas, but to sustain this isolated progress and extend it to much larger numbers of schools, we must provide a more solid research base for the many suspected

connections between instructional processes and student outcomes, and for the level of effectiveness of various "promising programs" in diverse contexts. We must evolve more readily available and useful information on contextually effective program options and provide realistic sets of requirements for program implementation. Finally, we must motivate a national drive toward systemic supports for community and for high-reliability operations in schools serving at-risk students.

Implications for Needed Research

Previous research has demonstrated that it is possible for schools serving large numbers of students placed at risk to help bring those students to levels of education far above levels traditionally achieved by disadvantaged groups. Now, we need a coherent and sustained program of applied research and evaluation studies of the *conditions* that foster or cripple valuable school-based reforms for students placed at risk. Applied research of this sort can be meaningfully supported by systematic, third-party evaluations of diverse reform efforts. Finally, we need to have in place a mechanism for the dissemination of research findings related to at-risk students—a dissemination system that piggybacks upon a coordinated research program and works through established networks to reach teachers, administrators, and support staff. We must begin, in short, by educating our consumers; then we must do our best to meet their expectations.

Summary of Literature Review

To establish quality education for our young people, we need to look at all aspects of our schools—curriculum, instruction, assessment, staff development, and organizational strategies—as well as factors outside school that influence students' "readiness to learn." Our challenge is to institutionalize practices that stimulate all students to learn, while ensuring that the diverse needs of students at greatest risk are met in a nonstigmatizing manner. The literature on students at risk is constantly expanding and changing, and there are varying and often sharply divergent interpretations of the data on students at risk and the programs that serve them. The purpose of this literature review is to bring together what has been learned over the past few decades about children at risk and review current strategies designed to improve student and school performance.

An Historical Overview

As we approach the 21st century, economic and demographic trends are making the needs of students at risk, and the country's dependence on these young people, increasingly salient. Students traditionally regarded as "at risk"—poor children and children of color—are growing in numbers. According to some projections, by the year 2020 about one-fourth of children will live in poverty, and children of color will comprise more than half of students in public schools (Natriello, McDill, and Pallas, 1990). Already, in many districts, children of color comprise the majority of public school students.

The presence of large numbers of at-risk children in schools is not new. At the turn of the century, immigrant children composed the majority of many urban schools while African-American, Mexican-American, and other children of color made up significant proportions of southern and western school districts. At that time, the education necessary to integrate these students into the economy was limited to learning basic skills and

disciplined work habits suitable for the factories and the fields (Tyack, 1974; Eckert and Marshall, 1938; Katz, 1971). Schools also reinforced color and class divisions, with curriculum designed to prepare these students for their station in life and to discourage aspiration to "the white man's condition" (Cubberly, cited in Mohraz, 1979; Odum, 1910/1968; Carter and Segura, 1979; San Miguel, 1987b; Anderson, 1988).

World War II ushered in a new call for qualitatively different education reforms, fueled by the cold war and the shift to a post-industrial economy. It is important to recognize that reformers did make real gains in addressing educational equity, excellence, and relevance through desegregation, compensatory education, and community/culture-based instruction (Anderson, 1988; Alverez, 1986; Noley, 1994). Black dropout rates have declined sharply, and—according to some statistics—converge with white dropout rates when family income is held constant (New York Times, 1992). Citing data from the College Board and from the National Assessment of Educational Progress, Lewis (1992) states that the great "untold story"" of the past 20 years is that black youngsters have been "steadily narrowing the gap between themselves and whites in math and science proficiency....[and the] reading proficiency of blacks...is much higher than it was twenty years ago." Over the same time period, the mean scores of black students on the Scholastic Aptitude Test have increased by much larger margins than the mean scores of white students.

While significant, these gains are not sufficient to close the gap between the education attainment of at-risk students and the skills required for integration into all levels of the rapidly changing economy. It is from today's generation of young, ethnically diverse students that the next generation of scientists, engineers, and mathematicians must be drawn to replace retiring professionals in the next century (Kahn, 1992). And it is this young, ethnically diverse population that the aging Baby Boomers must depend upon to support the Social Security system (Hodgkinson, 1985). Many recommend that even noncollege-bound young people must develop strong academic proficiencies: the fastest growing occupations will require some postsecondary training. While the economy will continue to generate large numbers of new low-skill jobs, the wages for those jobs are declining (American Association for the Advancement of Science, 1989; National Research Council, 1989; U.S. Department of Labor, 1987; Urban Institute, 1991b).

Economic and demographic trends give a new urgency to education reform efforts, yet the personal and social costs of school failure have been apparent for decades. The direct costs of correcting this failure are tremendous. Almost one-third of major U.S. corporations provide basic skills training for employees, spending $25 billion annually on remedial education (Reich, 1990), and businesses spend as much on remedial math education as schools and colleges (National Research Council 1989). Huge disparities between the well-educated "haves" and the poorly skilled "have nots" intensify social divisions and contribute to urban decay and violence. The escalating costs of our welfare and prison systems cannot be measured simply in dollars and cents; all of us, including those caught within these systems, pay for unemployment and crime with a loss of security and well-being.

And there are less dramatic costs—costs that rarely make the evening news. Most poorly educated young people do not become lifelong welfare recipients or career criminals. High school dropouts are less likely to find work (Stern, Paik, Catterall, and Nadata, 1989) and get promoted (Sicherman, 1990) than more highly educated persons. Too many of these poorly educated young people labor long hours at dead-end jobs for wages that fail to raise their families out of poverty; they enroll in store-front vocational "colleges" that immerse them in debt and fail to prepare them for promised career opportunities; they struggle to read the employment application or the letter from their child's teacher that demands more literacy skills than they possess; they die at earlier ages from illnesses and diseases related to poverty.

Student Background

Historically, children of color and poor youth have been disproportionately at risk in our schools (Coleman, 1988; Comer, 1988, 1992; Darling-Hammond, 1985; Farley and Allen, 1987; Jaynes and Williams, 1989; Natriello, McDill, and Pallas, 1990; National Alliance of Black School Educators, 1984; Ogbu, 1985; Smith and O'Day, 1991; Strickland and Ascher, 1992; Wilson, 1987; Winfield, 1991). Yet they are not the only children at risk. Any child who lacks sufficient support may fail to develop adequate academic and social skills. Prenatal conditions, quality of health, family characteristics, peer influences, community climate, and social status may be affected by support networks and significantly influence a child's "readiness to learn" (McCormick, Gortmaker, and Sobol, 1990; Hack et al., 1991; Carter, 1983; Marlowe et al., 1982; Needleman et al., 1979; Natriello, McDill, and Pallas, 1990; Ekstrom, 1987; Brooks-Gunn and Furstenburg, 1986; Wallerstien and Kelly, 1980; Lamb, 1981; Hetherington et al., 1981; Biller, 1971; Larson, 1989; Fernandez et al., 1989; Stroup and Robins, 1972; Riley and Cochran, 1987; Pasco and Earp, 1984; Sroufe and Egeland, 1989; Clarke, 1983; Goldenberg, 1989; Kunjufu, 1988; Semons, 1989; Schunk and Hanson, 1985; Fordham, 1988; Littel and Wynn, 1989; Auletta, 1982; Heffernan and Heffernan, 1986, cited in Green and Schneider, 1990; Grant Foundation, 1988; Ogbu, 1978; Braddock and McPartland, 1987; Steele, 1992; Urban Institute, 1991a; McCarty, 1976; Huang, 1990).

Diverse strategies involving school, business, social service, and community-based organizations have been suggested to reduce environmental risks (Grant Foundation Commission, 1988; Heath and McLaughlin, 1989; Meyers and Bernier, 1987). Notable in the literature is a shift away from a single-minded focus on crisis intervention to an emphasis on preventive or developmental services that bolster families and address multiple needs. While many of these interventions may center on schools or involve collaborations between schools and communities, others may require fundamental changes in social services and society. Specific strategies proposed by various researchers, policymakers, and child advocates are highlighted below.

Quality of Health. Proposals to improve the health of poor children include expansion of prenatal care and drug treatment programs for poor women, improved availability of immunization against childhood diseases, comprehensive health clinics for school-aged children in low-income areas, school-based teen health clinics, expansion and improvement of children's mental health care, and universal health coverage, food stamp expansion, establishment of a guaranteed minimum income, increased availability of low-income housing, and development of more and better shelters for runaway and homeless youth (e.g., Chasnoff, 1991; Children's Defense Fund, 1986; Connor, 1988; Gibbs, 1988; Sartain, 1989).

Family structure. Other researchers target the relationship between parent and child for intervention. Suggested reforms range from an expansion in social services (e.g., parenting skills courses, support groups, child abuse prevention, home health-visitor program for first-time parents), to improving the economic conditions of families (e.g., enforcement of child support), to policies facilitating parenting (e.g., policies that promote two-parent families, flextime, and family leave for child care) (Grant Foundation Commission, 1988; Rich, 1987; Helfer, 1987; Conner, 1988).

Youth programs and integrated services. Youth programs, grassroots groups, and informal social networks (e.g., concerned, mutually supportive neighbors) may serve as "mediating structures" that protect young people from the risks of living in poor communities (Woodson, 1989). Social support may strengthen family resilience, increase young people's access to support and guidance, encourage adolescents' investment in constructive pursuits, and foster talent development (Dunst et al., 1986; Murray-Nettles, 1989; Pascoe and Earp, 1984; Saulnier and Rowland, 1985; Shonkoff, 1984; Stanton-Salazar, 1990). Especially in poor areas with large numbers of single-parent families, school-based programs that provide before- and after-school care are much needed to provide children with a safe place to be while their parents work (U.S. Department of Education, 1993).

Youth programs, however, must be careful not to stigmatize participants. In middle-class areas, youth programs are often viewed as opportunities to encourage and develop children's talents. In poor areas, youth programs are frequently thought of as interventions to discourage involvement with drugs or crime—although many participants may have never considered becoming involved in illegal activities (Littel and Wynn, 1989). Children may receive a hidden message from these programs that, because of the color of their skin or where they live, little is expected of them. Success may be negatively defined, attributed to the intervention, or both—if the participants do not grow up to become thugs, the program is a success.

The above discussion of environmental risk factors is not meant to suggest that schools can do little to raise the performance of poor children. Although all students would benefit from an improvement in their home or community environment, most students at risk do not suffer from the severe problems (e.g., child abuse or neglect, homelessness) that may

require intensive interventions involving outside agencies. Thus, school reform is not dependent on social service improvements.

School Environment

It is important to recognize the effect of student background on children's "readiness to learn." Yet are our schools "ready to teach" children from diverse backgrounds? Many of the schools that serve poor children and children of color may lack an engaging school climate, adequate support services, and challenging instruction. In this section, we explore the ways in which the interactions of students and teachers—and the relevance and rigor of curriculum—may influence school climate. Also, we examine the resources available to schools. Proposals to enhance the school environment for children from diverse backgrounds are outlined below.

School climate. To provide a warm school climate, school administration and support services in poor areas must be especially sensitive to the needs of students with responsibilities or problems outside school (Hill, Foster, and Gendler, 1990; Fraser and Fisher, 1982; Moos, 1979). Students need to feel attached to school as a supportive community that recognizes their individuality and that cares about and promotes their success (Bidwell, 1987; Coleman, 1987; Bryk and Driscoll, 1988; Lightfoot, 1978; Lipsitz, 1984; Wehlege et al., 1989; Young, 1990; Coalition for Essential Schools, 1985). Unfortunately, school climates are often inhospitable to these students. They are more likely to be inappropriately tracked (Snider, 1989; Suarez-Orozco, 1989) and to receive inadequate psychological services due to insufficient service levels (Tuma, 1989), counselor insensitivity (Gibbs and Huang, 1990), or a lack of training (Christensen, 1992). Studies of homeless and migrant children emphasize that highly mobile students may especially suffer from inadequate administrative and support practices (Morse, 1988; Phillips, 1985; Molnar, Rath, and Klein, 1990; Nichols-Pierce, 1992).

Instructional practices. If instruction fails to engage and challenge students, classroom climate and intellectual development may suffer. In fact, interest is a significant determinant of how people attend to and persist in processing information (for a review of research, see Hidi, 1990). Children are more likely to learn material that stimulates their interest (for other theories of student motivation, see Ames and Ames, 1984, 1985, 1989; Brophy, 1987; Blumenfeld et al., 1991; Lepper, 1988; Willis, 1991). The lack of active learning experiences may help explain why students' interest in challenging subjects tends to decline (Anderson, Pruitt, and Courtney, 1989; Reyes and Laliberty, 1992); others cite pressure and boredom (Farrell et al., 1988). With no incentive to exert effort in the classroom, school becomes increasingly irrelevant and boring, while peer pressure becomes increasingly important. Peer loyalty has a payoff—mutual assistance and emotional support—while attempting to conform to school pressure does not appear to be rewarded. McDill, Natriello, and Pallas (1986) warn that the reform movement's push toward raising academic standards may place more students at risk. If students are not

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given opportunities to experience academic success, they are more likely to become disengaged and dropout (Ekstrom et al., 1986; McDill et al., 1985, 1986; Wagenaar, 1987; for research on student accounts of their decision to drop out, see Pallas, 1986; Peng and Takai, 1983; Rumberger, 1983).

Racial tensions exacerbate this relationship. When school climates fail to foster positive interethnic relations, hostilities among teachers and students may lead to disengagement and racial polarization (Semons, 1989; DeMeis and Turner, 1978; Rist, 1970; Williams and Muel, 1978). Fine (1983) suggests that the "at-risk student behaviors" of some youth may be a protest against the racial, gender, and class biases in schools. Others suggest that it is not race but the stigmatization of tracking that fuels disengagement and dropout: Page (1989) found that middle-class, lower track students are about as likely to become disengaged and drop out as are students from "disadvantaged" backgrounds (for other studies on tracking, see Hallinan and Sorensen, 1985; Ianni, 1989; Koslin et al., 1972; Slavin, 1990; Braddock, 1990; Kulik and Kulik, 1982).

However, if schools are too accommodating to low performance, they may limit the usefulness of school attendance. Continuation schools, for example, may be more responsive to students' needs (e.g., offering daycare to young mothers) and thus often may be more attractive to students than comprehensive schools; however, they may stifle achievement by offering limited opportunities for academic challenge (Kelly, 1989; Miller, Leinhardt, and Zigmond, 1988).

School resources. Over the past 30 years, various studies have documented huge expenditure disparities among districts and schools (Barton, Coley, and Goertz, 1991; Taylor and Piche, 1990; Sexton, 1961; Kozol, 1991; McCarty, 1989). The effect of these disparities on educational outcomes continues to be debated, with some arguing that resources matter (Ferguson, 1991; Biniaminov and Glasman, 1983; Eberts and Stone, 1988; Kiesling, 1984) and others vigorously contesting that it is family and peer influences that determine student performance (Coleman et al., 1966; Gastil, 1972; Hanushek, 1990; Deutsch et al., 1967). Some researchers who argue in support of equity in school outputs further assert that impoverished schools may need more funding than middle-class schools (Green and Schneider, 1990; Capper, 1990; Levinson, 1988).

Furthermore, research suggests that there are cumulative, interactive effects between risk factors and resources (Werner and Smith, 1982). As students progress through school, the interaction of risks and resources over time may lead to achievement disparities (Walberg and Tsai, 1983). The presence of multiple risk factors has a potentiating effect on a child's other risk factors (Rutter, 1979; Benson, 1990; Frymier, 1992; Mensch and Kandel, 1988; Monk and Ibrahim, 1984).

Interactions of Risk and Resources

It is misleading to assess the risks posed by home or school characteristics in isolation from one another. Parent and teacher expectations that, in and of themselves, pose no risk to children may cause problems if they are in conflict (Becker, 1991). In some cases, dissonance between home and school may be caused by cultural differences (Boykin, 1994; Gordon and Yowell, 1994; Greenbaum, 1985; Moore, 1985; Valdivieso and Nicolau, 1994; Vogt, Jordan, and Tharp, 1987). Merely providing multicultural materials will not eliminate dissonance; learning contexts must also allow for differences in the values, skills, and learning styles children bring to the classroom.

Many at-risk behaviors co-occur due to cause-and-effect. Young people who skip classes, for example, miss out on instruction, thus they have a harder time passing tests and making good grades. Academic failure may further discourage them from coming to class, thus a downward spiral of absenteeism and poor achievement may ensue. At-risk behaviors may also co-occur because of direct or indirect peer influences. For example, if a young person skips class with friends who use drugs or alcohol, the young person may pick up the habit to fit in. Also, at-risk behaviors, and the responses of teachers to these behaviors, may place an entire class at risk, not just the students who choose to engage in at-risk behaviors. For example, Monk and Ibrahim (1984) find that the standardized test performance of students who regularly attended class may be negatively influenced by their classmates' absences. The time teachers spend reviewing lessons with chronic truants may take time away from educational opportunities for the rest of the class.

Many educators point to the cumulative effects of resources to argue for early intervention programs. Campbell and Ramey (1989) report that preschool intervention is more effective than school-age intervention at enhancing intellectual growth and improving student performance. Other research suggests preschool programs may have long-term positive effects on literacy, employment, and social behavior (Berrueta-Clement, Schweinhart, Barnett, Epstein, and Weikart, 1984). However, a "fade-out" effect may occur if successive grades fail to build upon preschool influences and address age-specific needs (see Natriello, McDill, and Pallas, 1990).

Student Performance

Researchers increasingly conceptualize poor educational performance as the outcome of a process of disengagement that may begin as early as a child's entry into school (Finn, 1989; Kelly, 1989; Merchant, 1987; Rumberger, 1987; Natriello, 1984). According to this model, students who do not identify, participate, and succeed in school activities become increasingly at risk of academic failure and dropout. In order to improve student achievement and persistence, the model suggests that the school climate must foster "investment" behavior; schools must encourage student involvement in academic and

extracurricular activities by stimulating their interest, increasing their personal resources (e.g., remediating skill deficiencies), and rewarding their efforts.

Thus far in this section, we have reviewed both traditional and innovative school responses to the challenge of educating students at risk. Given the diversity of the student population, no single strategy will provide the solution to all education-related ills. The challenge for researchers, policymakers, and practitioners is to develop connected strategies that stimulate learning among all students, while ensuring that the specific needs of students at greatest risk are not lost in the fray.

Compensatory Education

In the context of formal schooling, being different has too often meant being deficient, and being deficient has meant "being at risk of academic failure." Student retention and tracking have been used since the turn of the century as the primary strategy to address this problem. The compensatory education movement, founded in the 1960s, is based on the assumption that many students, because of their minority and poverty status and their low academic achievement, are disadvantaged and should be provided with extra help and programs such as Title I and special education to "compensate" for those disadvantages. This "deficit model" has been criticized for rationalizing students' failure in terms of alleged deficiencies in their background—a version of blaming the victim, which often serves to uncritically legitimize the existing school system (Baratz and Baratz, 1970; Valentine, 1971).

Grouping. Students at all school levels are placed in instructional groups, with age- or grade-groupings being the most obvious examples. One of the most pervasive and controversial forms of instructional grouping is the placement of students in homogeneous learning groups within a grade or even within a classroom according to evaluations of their academic performance. There are a number of labels applied to this practice, with the term "ability grouping" most often used to describe this kind of organization at the elementary level, and "tracking" most often applied at the high school and sometimes the middle school levels.

Instructional grouping by ability is designed to enable teachers to most efficiently match content with students' apparent ability levels and learning paces. However, both ability grouping and tracking have been severely criticized as methods for dealing with student diversity because poor children and children of color are disproportionately represented in lower groups or tracks. There is evidence that lower-level classes are often stigmatized and are likely to provide poor climates for learning and lower expectations for student achievement (Oakes, 1985, 1989, 1992; Slavin, 1989; Gamoran and Berends, 1987; Braddock, 1990).

The relationship between different forms of instructional grouping and academic achievement is inconclusive, however. At the elementary level, Slavin (1986, 1987) synthesizes empirical evidence and shows that some forms of ability grouping do appear to be beneficial, especially when students are grouped for only one or two subjects while remaining in heterogeneous classes most of the day. At the high school level, students are often tracked into distinct academic, general, or vocational curricular streams. This has consequences not only in terms of the quality of education they receive but for peer-group formation, likelihood of graduation, and future education and employment opportunities (Oakes, 1992; Braddock, 1990; Gamoran and Berends, 1987). Moreover, there is little evidence that students at the secondary level benefit academically from being in tracked classes (Slavin, 1990).

Retention. Like tracking, the practice of retaining, or holding back, students who fail to demonstrate required levels of achievement has been a common response to the challenge of educating low-achieving students. Also like tracking, the bulk of the research evidence shows that retention, as it is currently practiced in most schools, has few positive and mostly negative effects on student learning (Shepard and Smith, 1989; Holmes, 1989; Grissom and Shepard, 1989; Natriello, McDill and Pallas, 1990). McPartland and Slavin (1990) point out that, as with tracking and ability grouping, retention might help improve the achievement of students at risk, but only if it is done in a "timely and effective" way (i.e., only holding back very young students who are less affected by the stigma of being retained, or only holding back students at certain key transition points in their school careers and providing them with high quality special programs if they have failed to master the skills required to advance).

Special education. Special education services have been provided since 1975 to students who have identified disabilities, typically in the form of small group instruction from specially certified teachers. In recent years, there has been a substantial increase in the number of students with mild learning disabilities who are receiving special education services. While the percentage of students categorized as physically disabled and mentally retarded stayed at about the same level from 1976 to 1989, the number of students categorized as learning disabled (LD) increased by more than 250 percent during the same period (National Center for Educational Statistics, 1990). These LD students are typically the lowest of the low achievers with no distinctive characteristics of birth defects or biological damage (Deshler et al., 1982). According to Slavin (1989), almost 90 percent of this increase represents the entry into the special education system of low achievers who would not have been served in special education in the 1970s. Hence, he concludes, "special education has assumed a substantial burden in trying to meet the needs of students at risk of school failure..." in spite of the fact that "...research comparing students with mild academic handicaps in special education to similar students left in regular classrooms finds few benefits for this very expensive service" (Leinhardt and Pallay, 1982; Madden and Slavin, 1983).

Title I. The largest compensatory education program that provides extra help to impoverished students is the national Title I program, created in 1965. In the 1991-92

school year alone, Title I provided more than $6 billion to programs in 90 percent of public school districts serving approximately 5 million students nationwide (LeTendre, 1991; Anderson, 1992). Though some nonacademic services such as transportation, counseling, and health and nutrition programs are funded through Title I, reading and mathematics instruction are the most commonly provided services (Anderson, 1992).

Most Title I programs follow one of five service delivery models: in-class, limited pull-out, replacement, add-on, or schoolwide. Because regulations require that Title I programs "supplement and not supplant" regular education services, and because, until recently, Title I funds had to be targeted only to eligible students, pull-out has been the strategy most widely used (Slavin, 1989; Birman, Orland and Jung et al., 1987; Natriello, McDill, and Pallas, 1990). Under this model, students who are having difficulty in a particular subject typically are removed from their regular classrooms for 30 to 40 minutes per day to participate in subject-specific, small-group remedial instruction. Researchers have criticized pull-out programs for their lack of coordination with the regular classroom, disruption of classes, and diffused responsibility for individual children (Stein, Leinhardt, and Bickel, 1987; Rowan and Guthrie, 1989). While Title I programs do have modest positive effects on skills, they are less effective for the most disadvantaged students (Carter, 1984), and the effects fade out after two years (Natriello, McDill, and Pallas, 1990).

Current Tensions

In our review of current and emerging strategies, to respond to diversity and the needs of underachieving students, we find tensions emerging from the knowledge base of nearly 30 years of practice—tensions that question traditional responses and indicate a shift away from the deficit model that has guided compensatory education. For example, the practice of remediation is being challenged by a powerful policy of prevention in early childhood. Remedial or special education programs that have focused on improving basic skills are now encouraged to emphasize higher order thinking and problem-solving skills. Acknowledging that students must be engaged in the culture of the school as well as challenged academically, an emerging emphasis on mainstreaming and whole-school restructuring is calling into question the often-used approach of pulling children out of their regular programs for special instruction. Finally, in response to increasingly diverse student populations, many educators are calling for less emphasis on compensating for what poor children and children of color lack, and greater emphasis on pedagogical techniques that make use of the students' strengths and sociocultural experiences as stepping stones for further learning.

While these emerging strategies challenge traditional assumptions about educating impoverished students, they do not go uncriticized. Too great an emphasis on early childhood prevention can lead to an overidentification of "problem" students. It also can direct resources away from programs in later grades that are necessary to ensure that

children's academic gains do not "fade out" as they progress through school. There also are practical questions as reforms are phased in at one level of the education system but not in another. Similarly, though higher order thinking skills may be at a premium in the workplace, state competency tests continue to emphasize mastery of basic skills; teachers are still reinforced to teach to the test. Finally, whole-school restructuring strategies may pull resources away from the neediest students. While doing away with the deficit model may have positive effects on students' cognitive and emotional development, alternative approaches must not fail to acknowledge the very real disadvantages that may impair many students' learning.

Compensatory education is no monolith. The 1980s have seen the maintenance of traditional approaches combined with new approaches that may subvert the meaning behind the term "compensatory" itself. The strategies and programs outlined in the following section reflect some of these tensions. To create a challenging, nonstigmatizing learning environment that meets student needs, policymakers have proposed significant changes in curriculum, instruction, assessment, and organizational strategies. Specific proposals are surveyed below.

Emerging Strategies

The size and scope of Title I make the program an important leader for change in compensatory education. Title I was reauthorized in 1988 under the Hawkins-Stafford Elementary and Secondary School Improvement Amendments, which were touted as the first "education-based" reforms to Title I. The amendments were designed to increase accountability for student performance, provide opportunities for greater flexibility in pursuit of improved performance, stress higher order thinking in addition to basic skills, and increase emphasis on parent involvement. One of the most significant changes brought about by the new legislation was the provision for greater flexibility in the coordination of Title I resources with the regular school program by enabling schools with 75 percent or more students eligible for free lunches to use Title I funds for schoolwide programs (LeTendre, 1991; Winfield, 1991; for an evaluation of a schoolwide program see De Baca, Rinaldi, Billig, and Kinnison, 1991; for critiques of Hawkins-Stafford implementation, see, e.g., Clayton, 1991; Slavin and Madden, 1991; Stringfield, Billig and Davis, 1991; Fagan and Heid, 1991; Miller, 1992).

Early Prevention. A view that prevailed during the 1960s, that early intervention programs targeting very young children provided the most cost-effective compensatory education for disadvantaged youth, enjoyed a comeback in the 1980s as educators and policymakers supported programs designed to ensure that students enter and progress through school "ready to learn." There may be a tendency to overemphasize the advantages of early intervention (Woodhead, 1988; Natriello, McDill, and Pallas, 1990). However, early childhood programs can help provide a firmer foundation for later school success (Slavin, Karweit, and Wasik, 1991; U.S. Department of Health and Human Services, 1992; McKey

et al., 1985; Karweit, 1987; Slavin, Karweit, and Madden, 1989; Karweit and Wasik, 1992; Karweit, 1992a; Slavin, Karweit, and Wasik, in press; DeFord et al., 1987; Madden et al., 1991; Madden et al., 1993, Howard and Andrew, 1978; Lloyd, 1978; Kelly, Veldman, and McGuire, 1964).

Multicultural education. Multiculturalism has been the subject of enormous debate in recent years (American Educator, 1991a; Ravitch, 1990). The idea of "multicultural education" has most often been associated with specific changes in curriculum (for a program evaluation, see, e.g., Gottfredson, Nettles, and McHugh, 1992). Studies suggest that active learning in combination with "scaffolding" (building upon the cultural knowledge that children bring to the classroom) may enhance the learning of young people of color (Guitierrez, 1992; Lee, 1992; Peterson, 1991). Proponents decry the Anglo-centric bias of traditional learning materials and argue for the integration of more diverse, positive images, historical role models, and, in general, a more balanced view of history that represents the experiences and perspectives of marginalized groups (see, e.g., Sobol, 1990). Critics of the multiculturalism movement view this kind of curriculum program as potentially divisive and even "anti-American" because it encourages students to seek their primary identity in a particular ethnic group rather than in a united American culture (Schlesinger, 1991; Bennet, 1991; Ravitch, 1991-1992).

Another aspect of multicultural education is the issue of bilingual education, which also has been embroiled in controversy and debate since the passage of the federal Bilingual Education Act in 1968. The conflict can be seen in the English-only movement versus the English-Plus coalition (McGroarty, 1992), in proposals for a bilingual immersion program in which "both language-majority and language-minority students learn each others' languages while continuing to develop their own," (Cziko, 1992) and in the alternative perspectives on how bilingual education should be offered in schools (i.e., either as a tool to help minority students assimilate into the American mainstream, or as a second-language acquisition that adds to the linguistic resources an individual already possesses) (Alvarez-Pease and Kenji, 1992).

Changes in curriculum. In addition to multicultural education efforts, other initiatives reject the special education model of offering more of the same content at a (perhaps) slower pace by making the school curriculum more engaging and relevant. A number of curriculum projects have been developed that focus on real-world experiences for the learning content. Examples include the microsociety school (Richmond, 1989), experiential learning projects (Blumfeld et al., 1991; Erickson and Shultz, 1992; Means et al., 1991), Action Learning Projects from Minnesota's Project Together (Daniels, 1983), the Foxfire student publishing experience (Wigginton, 1989), the Algebra Project (Moses et al., 1989), and various community service programs (Coleman et al., 1974; Nettles, 1991a, b; Newmann and Rutter, 1985-86; Schine, 1988). At the same time, comprehensive plans are being pursued by major national groups to completely restructure the curriculum for active student learning of higher order competencies through real-world applications in each major subject across the grades (Jackson, 1992; National Council of Teachers of Mathematics, 1989; Anderson et al., 1989). If all students are to benefit from these

developments, resources must be available to implement ambitious curriculum changes in all schools, including those attended by poor children and children of color that presently are not adequately funded for instruction in the traditional curriculum.

Many middle and high school students are more motivated to work hard if they view classroom learning tasks to be useful in the adult world of work. In general, researchers have found that poor school performance, early school leaving, and rebellious behavior suggests that the school program is not relevant to students' current and longer term social and economic interests (Oakes, 1989, 1992; Gamoran and Berends, 1987). But traditional vocational education has frequently been criticized as lacking sufficient academic content and failing to prepare students with well-defined marketable skills (Educational Testing Service, 1990b). These problems have a particularly strong impact on poor children and children of color since they are disproportionately represented in vocational programs (Braddock, 1990). The 1990 reauthorization of the Carl D. Perkins Vocational Education Act explicitly encourages the integration of academic and vocational programs (Association for Supervision and Curriculum Development, 1990; Bottoms and Presson, 1989; for overviews of academic/vocational integration models, see, e.g., Bottoms and Presson, 1989; Educational Testing Service, 1990b; Grubb, Davis, and Lum, cited in National Center for Research in Vocational Education, 1991; for compendiums of dropout prevention programs, see Hahn and Danzberger, 1987; National Committee for Citizens in Education, 1988; OERI, 1987; Orr, 1990).

Changes in instruction. Accompanying changes in the curriculum designed to make it more engaging for students at risk are changes in traditional forms of instruction. In general, these instructional strategies entail a movement away from the passive teacher-lecture/student-listen mode of instruction to a more active arrangement of learning activities. They also suggest that effective "instruction" can take place within and outside the classroom and that a personal connection with a "teacher" can make a difference in whether a student succeeds or fails. Specific strategies include the involvement of nontraditional teachers such as mentors and race-gender role models, adult and cross-grade peer tutoring, and integrating technology as a tool for instruction. There is considerable debate about the effectiveness and appropriateness of these proposals (Flaxman, Ascher, and Harrington, 1988; Freedman, 1988, 1991; McPartland and Nettles, 1991; Maeroff, 1990; Lipsitz, 1984; Lightfoot, 1983; McPartland, 1992; U.S. House of Representatives Select Committee on Children, Youth, and Families, 1989; Gibbs, 1988; Ascher, 1991; Cooper, 1990; Holland, 1987; Lawton, 1990; Merwin, 1990; Southern Education Foundation, 1990; Tifft, 1990; Fordham and Ogbu, 1986; NAACP Legal Defense Fund, 1991, cited in Ascher, 1991; Butler, 1987; American Association of University Women Education Foundation, 1992; Pease-Alvarez and Kenji, 1992; Epstein and Karweit, 1983; Coleman, 1961; Elder, 1968; Fordham and Ogbu, 1986; Spilman, 1990; Cohen, Kulik, and Kulik, 1982; Natriello, McDill, and Pallas, 1990; Cohen et al., 1982; Slavin, 1986; Levin et al., 1984, 1986; Wasik and Slavin, 1990; Niemiec, Blackwell, and Walberg, 1986; Electronic Learning, 1988; Becker, 1986; Johnson, 1992; Pogrow, 1988, 1990a, 1990b; Ross, Smith, and Morrison; 1991; David, 1991).

Changes in assessment. Critics of conventional testing and assessment methods argue that such assessment tools as standardized, objective tests often do more harm than good, especially for underachieving students. Alternative forms of assessment and reward structures are being proposed and developed. These alternative assessment strategies are designed to have students demonstrate what they have learned rather than how well they take a test, and to motivate rather than discourage students who start out well below average. Examples of potentially better assessment methods include oral interviews, science experiments, portfolios of student's work over an extended period of time, public exhibitions where students answer questions on their senior projects, and performances of skills in simulated situations (Perrone, 1991; Wolf et al., 1991; U.S. Congress, Office of Technology Assessment, 1992; Mac Iver, 1991).

Organizational strategies. Extensive research evidence indicates that a supportive climate for learning can be severely damaged by the very large secondary schools that are typical of major urban and suburban districts where many students at risk are enrolled (Toch, 1991; Gottfredson and Gottfredson, 1985; Bryk and Thum, 1989; Maeroff, 1992; Barker and Gump, 1964; Diprete, 1982; Garbarino, 1978, 1980; Morgan and Alwin, 1980). There is no evidence that new, smaller schools are now being constructed for the middle and high school grades, but many smaller units are being created within larger schools (Toch, 1991; Fine, 1992). While these programs are promising, Maeroff (1992) notes that opportunities for sustained, close, positive contacts between students and teachers will only be achieved if such arrangements are more than administrative units that change each year for particular students and have no programs of adult guidance and support for individual students.

Most American middle and high schools, and many elementary schools, are departmentalized—i.e., students receive daily instruction from several different teachers because each teacher specializes in a single subject. This practice is nearly universal in high schools and is almost as common in the middle grades; it is often reinforced by certification regulations that stipulate the use of only specialized teachers in the secondary grades. The rationale for such regulations is that the instructional content of each academic subject in the secondary grades requires teachers who are experts in the area, and that instruction will be of higher quality when teachers can take special pride in their subject-matter discipline and can concentrate on preparing a limited number of outstanding lessons each day that are offered to several different classes. Although research supports some of the instructional benefits of departmentalized staffing, the risks that many students will not encounter a climate of caring and support have been more strongly documented (McPartland, 1990; Bryk, Lee, and Smith, 1990). Two structural approaches may help to offset the negative effects of departmentalized staffing: "semi-departmentalization" in which the number of different specialized teachers assigned to each student in middle and secondary grades is limited (McPartland, 1990); and interdisciplinary teacher teams that have specific team-member responsibilities for the success of each student (McPartland, 1991; Robinson, 1991; Lipsitz, 1984; Merenbloom, 1986; Arhar, 1992; Alexander and George, 1981; Mac Iver, 1990; Maeroff, 1990; Connors, 1992).

Alternatives to tracking have been proposed but not evaluated. These alternatives include various approaches to limit the use of separate classes for instruction and various methods to make the heterogeneously mixed class work well when tracking is eliminated. Tracking can be limited in several ways, including regrouping in only one or two courses (such as math and reading) while keeping all others randomly mixed; assigning students to track levels on the basis of course-specific data (so that a high-track assignment in one subject and a low-track assignment in another subject can occur for the same student); restricting the number of different track levels in the same course (such as a gifted section and a broad general section); and assigning extra resources and the most talented teachers to classes with the most needy students (Braddock and McPartland, 1990).

Simply eliminating tracking to equalize educational opportunities will produce classes of students with wide ranges of backgrounds and achievements in which special problems of student motivation, teacher effectiveness, and classroom climate must be addressed (Oakes, 1986; Braddock and McPartland, 1990). Student motivation can suffer when earning high grades is too easy for those at the top of the academic distribution and too difficult for those at the bottom. Teacher effectiveness can decline when classroom materials for a whole group lesson are poorly matched to the prior preparation of various students, such as reading matter that is geared to a single grade level when student reading skills range over several grade levels. The classroom climate can also be weakened in a heterogeneous class when discipline problems arise with students who feel they cannot perform acceptably on the assigned tasks.

Experiments to modify the structure of classroom competition indicate new directions for giving all students in heterogeneously grouped classes an opportunity to earn recognition and rewards for academic accomplishments. The basic idea is to establish individual benchmarks from which to calculate student growth, progress, and improvement for rewarding individual efforts at school work. Evaluations have found that frequent rewards do positively influence motivation, grades, self-reported effort and interest, and teachers' expectations (Beady and Slavin, 1980; Slavin, 1980; Mac Iver, 1991; Beady et al., 1981).

Modifications of classroom curriculum materials and learning activities may also help teachers deal successfully with heterogeneous classrooms. There are only a few published examples of such efforts and no formal evaluations of how they work (Epstein and Salinas, 1992; Romberg, 1983; Oakes, 1986). The most commonly used structure to deal with the diversity of students in heterogeneous classrooms, which can turn that diversity into an advantage, is cooperative learning. Cooperative learning methods include many approaches for heterogeneously grouped classrooms that create roles of high status and responsibility for each student in the class and that establish a positive peer climate for learning (Slavin, 1990; Cohen, 1986). Numerous evaluation studies have shown positive effects for both below- and above-average students on academic achievement and on student acceptance and respect of their peers who come from different backgrounds (Slavin, 1983, 1990; Cohen, 1984; Skon, Johnson, and Johnson, 1979, 1981). Other versions of cooperative learning assign roles to students that emphasize the special

strengths or knowledge of each individual, to build status in the group and commitment to group-learning goals (Cohen, 1986).

In addition to departmentalization and tracking alternatives, schools can also institutionalize direct connections between success in school and the student's future education and employment opportunities. In this vein, schools can (a) provide better information about student behaviors in school to employment agents and college admissions officers; (b) offer specific employment opportunities or college financial aid to students who meet particular school performance standards; and (c) include actual college and work experiences as part of middle and high school learning activities.

Employers who are hiring recent high school graduates have little information from schools on which to base their decisions (Crain, 1984), even though many aspects of school behavior are useful indicators that a job candidate is dependable, can work well as a team leader or member, or has other special job-related talents. Most students know that their high school record of attendance, grades, test scores, and extracurricular activities has little meaning in the employment process, so there is little incentive from the labor market to do well on these criteria (Bishop, 1987, 1989). New ways have been proposed for assembling records of academic and nonacademic accomplishments and for providing the information in a timely and convenient form in the job recruitment and selection process. Career Passport and Worklink are two examples of such initiatives (for overviews of these programs, see Charner, 1988; Educational Testing Service, 1990a, b; Association for Supervision and Curriculum Development, 1990).

Many middle and high school students also see little connection between their school behavior and later opportunities for college. In this case, the problem is more likely to be an absence of knowledge by students of college admissions processes than a need for better information by colleges about their student applicants. Students often do not know the required courses they need to take during the middle and high school grades to qualify for college admissions in major fields that can lead to a chosen career. Students in these grades may also discount entrance into many more selective colleges because they are unaware of available sources of financial aid. Such lack of knowledge prevents students from seeing the current relevance of working hard in challenging courses to earn admission to more selective colleges or to preferred major fields. Current programs such as Upward Bound provide knowledge on college prerequisites and the college admissions process to students at risk in their middle and high school years (for program overviews and evaluations, see U.S. Department of Education, 1991; Natriello, McDill, and Pallas, 1990; Burkheimer et al., 1979; Myers, in press; U.S. General Accounting Office, 1991).

In addition to increasing the flow of important, relevant information on jobs and continuing educational opportunities, schools can create direct links with employers. The Summer Training and Education Program (STEP), developed by Public/Private Ventures, is a particularly well-implemented and unusually well-evaluated program designed to provide underachieving 14-15-year-olds from low-income families with extra help in academics, life skills, and work experience during two consecutive summers. Students

also are provided with ongoing support during the intervening school year (Branch, Milliner, and Bumbaugh, 1986; Sipe, Grossman, and Milliner, 1987, 1988; Walker and Vilella-Vilez, 1992).

Other strategies and programs also create links between school and employment and college aid. Agreements between local businesses and school systems can guarantee students job interviews, actual employment, or direct assistance in applying and paying for college, in return for maintaining good high school attendance rates and grade-point averages. Examples include the Boston Compact, the Baltimore Commonwealth and Collegebound Foundation, and the Cleveland Collegebound Foundation. But these efforts have been criticized as being ineffective because the guaranteed rewards are too distant to affect student behavior and the criteria are too inflexible to appeal to those students who most need added incentives to improve school behaviors (Gottfredson, 1988).

We have little rigorous evaluation evidence of the effects of various strategies for providing better information to students or for offering college or employment rewards for good school behavior (U.S. General Accounting Office, 1990a; Betsey et al., 1985). The following suggestion appears valid: More effective programs will require a comprehensive approach that begins in the middle grades. This approach would combine more information to the student with personalized guidance services on college and career opportunities and requirements (U.S. General Accounting Office, 1990b) and an incentive program. The incentive program would offer immediate payoffs such as contributions to students' college savings accounts or actual chances for paid employment that are tied to short-term school records and incremental improvements in individual student behaviors in school (Gottfredson, 1988; Natriello, McDill, and Pallas, 1990).

Learning activities in middle and high school can be directly connected to the worlds of college or work so that the transition between different domains becomes a gradual experience, rather than school being merely a preparation for the college and career events that follow high school graduation. Current examples include tech-prep offerings that permit high school students to take part of their program at the local community college, cooperative education programs that coordinate learning experiences at the workplace with learning activities in the classroom, school-to-work apprenticeship programs, community college co-op programs, and high school programs to integrate academic and vocational offerings with experiential learning activities (U.S. General Accounting Office, 1991; Hoyt, 1991; Hamilton, 1990). These reform efforts are still in the early stages of development but show real promise for convincing students of the relevance of their school work for achieving college and career goals by directly linking their middle and high school learning activities to college and worksite locations and experiences.

A final way in which schools can be better organized to serve the needs of poor children and children of color is by strengthening school-community ties. In the last two decades, education practitioners and researchers have begun to realize that schools need help to improve appreciably the academic performance and social behavior of the most

disadvantaged segment of the at-risk school population (Dryfoos, 1991; Natriello, McDill, and Pallas, 1990).

To address the diversity of these student problems and behaviors, school systems are attempting to implement multifaceted and coordinated approaches in collaboration with public and private community agencies and parents. Long-standing mandates for parental and community involvement exist in the most prominent federal compensatory education programs such as Head Start, Title I, and Title I. However, "the shared responsibilities of families, schools, and communities are not well-understood nor well-developed in family practice, school practice, or community practice" (Center on Families, Schools, Communities, and Children's Learning, 1990).

Two distinct but compatible perspectives have emerged regarding how to deal with the deterioration within and among schools, communities, and families (Natriello, McDill, and Pallas, 1990). Wilson's (1987) prescription advocates reindustrializing and economically revitalizing inner cities. A second perspective, which is our concern here, argues for a strengthening of the bonds among the key educating institutions—the family, community, and school—to educate students at risk more successfully (see, e.g., Epstein, 1992). A specific way in which some schools are addressing the personal problems that impede students' learning is by integrating and coordinating the social services needed by many students at risk (for evaluations of existing integration and coordination efforts, see, e.g., Levy, 1979; Mathtech, Inc., 1991; Dolan, 1992; New Jersey Department of Human Resources, 1988; Dryfoos, 1991; Cohen, 1989, 1991; Deputy Superintendent of San Diego City Schools, 1990; Joining Forces, no date; Grannis, Riehl, Pallas, Lever, Randolph, and Jewell, 1988; Grannis, 1991).

In this review, we have concentrated on efforts to improve the schools and environment of poor children and children of color. Many of the reforms targeted at this population may suggest ways of making schools more effective for all students. High academic achievement and success in adult life is most likely when children receive resources, incentives, and a "push" to excel from the multiple social systems that they participate in. The level of academic failure tolerated in our school systems is incompatible with current economic and social objectives.

Study Aims and Study Questions

Study Aims

- Provide an assessment of the current state of the art with respect to research, policy, and practice concerned with educating students at risk.
- Recommend strategies that will assist those engaged in improving the education-related outcomes of students at risk.
- Pay special attention to three aspects of school reforms—raising academic standards, enhancing the academic climate of schools and out-of-school environments, and preventing dropouts and providing second-chance programs—that have special implications for students who are educationally at risk. For example:
  - Assess how schools have managed to implement higher academic standards for all students without creating inequities for certain categories of disadvantaged students.
  - Assess how schools have enhanced the climate on campus to encourage student learning and how they have assisted in the process of improving out-of-school learning environments for their students.
  - Assess how dropout prevention and second-chance programs work to increase student engagement in learning activities.

Study Questions

OERI's overarching mandate for the 12 studies of education reforms, of which this study of reforms for students at risk was one, called for several general questions to be explored by each study. These questions can be clustered into three categories: design, implementation, and impact.

Design

- What are the key characteristics of model approaches in this area? How do the reformed approaches differ from traditional practice and from prior practice in particular sites?
- What key characteristics cut across successful programs? What characteristics are missing from less successful programs in this area? Why are particular aspects of model approaches especially important?
- What are the purposes of these reforms? Are those aims different from traditional practice and from prior practice in particular sites?
- What role is played by research, research-based knowledge, and other information designing these reforms? What evidence documents that role?

Implementation

- What are the circumstances that permitted or encouraged the initiation, development, and sustenance of these reforms? To what degree, and how, can these or similar circumstances be reproduced in other settings? How must different approaches be adapted to particular settings?
- What are the principal incentives for reform? What have been the major barriers to the initiation, development and implementation of the reform, and how have those been overcome? What federal, state, district, or school policies or practices facilitate or inhibit these reforms?
- What resources were required to design, develop, implement, or sustain the reform, including staff time, training, space, materials, and supplies? If extra funds were required, how much extra was needed, what was the source of those funds, and how were they obtained? How were total costs and extra costs related to the number of students covered by the reform?
- What role was played by research, research-based knowledge, and other information in implementing these reforms? What evidence documents that role?

Impact

- What strategies and approaches have been developed to assess the impact of these reforms for at-risk students? How do these approaches separate the impact of the reforms from the impact of other factors that might affect outcomes? How can these assessments be used to refine the reform?
- What has been the impact of these reforms, particularly the impact on students, and especially the impact on student performance?
- What are the anticipated and unanticipated benefits and difficulties associated with this reform? How can those benefits be reproduced and those difficulties be avoided in other jurisdictions wishing to implement similar reforms?
- What role was played by research, research-based knowledge, and other information in assessing the impact of these reforms? What evidence documents that role?

- Overall, what are the strengths and weaknesses of each approach, and what is the likelihood that other jurisdictions could adopt the approach or adapt it to fit their particular circumstances?

In addition to these general questions concerning education reforms, specific questions were posed by the proposal request for this study. These questions also were clustered into three areas of focus: raising academic standards, enhancing the learning climate of schools and out-of-school environments, and promoting student engagement through dropout prevention and second-chance programs.

Raising Academic Standards

- What has been the impact of raised standards on staff and school programs? Has it affected what these people do and how they do it? For example, have instructional roles for teachers and other staff changed at all? Has the student role changed at all?
- Have any changes in student instructional groupings taken place and, if so, what was the impact? Was tracking eliminated or handled more flexibly? Has instruction become more individualized?
- Have special forms of instructional assistance been increased—e.g., pull-out programs, adult volunteer aides, peer tutoring, use of technology?
- What kind of staff development took place to accommodate the changes? How well did it work?
- Have raised standards had any effect on the nonacademic parts of the school program or its participants, e.g., nonacademic courses, extracurricular clubs, sports? Is there any evidence that increased academic standards are eliminating alternative avenues of school success for nonacademically able or oriented students, and if so, what effect is it having on those students?

Enhancing the Learning Climate of Schools and Out-of-School Environments

- What strategies were employed to change the school climate? To what extent are these strategies dependent upon personal authority, and which strategies can be universally transferred to other settings?
- What strategies were employed to affect the peer culture?
- What strategies were employed to affect the out-of-school environment? How necessary are out-of-school strategies to the overall reform effort of providing safe and orderly learning environments for students? What role can be played by the business community, by churches, and by other civic organizations to enhance the out-of-school environment of at-risk students?
- Is there any necessary correspondence between the strategies used to obtain and maintain discipline and the strategies to increase interest in the curriculum? Can some strategies for enforcing order actually detract from the curriculum?

Promoting Student Engagement Through Dropout Prevention and Second-Chance Programs

- What mechanisms are used to identify students who were at risk of dropping out, and how well do they work?
- What forms of dropout prevention programs seem to work best, for particular types of students?
- What are the relative costs and benefits of dropout prevention programs that begin in middle school versus those that begin in high school?
- Is there any way to create a dropout prevention program that prevents labeling or stigmatizing the students in it?
- What are effective methods of drawing students into second-chance programs?
- Which second-chance programs seem to work best for particular types of students?
- Can we learn anything from students who are in, or are candidates for, second-chance programs about possible dropout prevention programs that would lessen the need for second-chance programs?
- What can we learn from dropout programs about approaches for integrating educational and social services to help at-risk youth?

Case Study Summaries

To answer the questions above and to learn about the contextual factors that sustain effective reforms, we visited 12 sites nationwide. These sites, based upon previous national evaluations conducted by AIR and Johns Hopkins (Stringfield, S., Winfield, L., Millsap, M., Puma, M., Gamse, B., & Randall, B. (1994). Urban and suburban/rural special strategies for educating disadvantaged children: First year report. Washington, DC: U.S. Department of Education; Rossi, R.J. (in press). Effective strategies for keeping students in school: Evaluation of projects funded by the School Dropout Demonstration Assistance Program. Washington, DC: Office of Policy and Planning, U.S. Department of Education) or upon other research studies (Fine, M., Char(er)ing Urban School Reform Philadelphia Style), demonstrated effectiveness at enhancing student performance. In addition to demonstrating this effectiveness by engaging in reform activities, we considered three other selection criteria for case study sites: raised academic standards for students, a supportive school climate, and the presence of a dropout prevention program. In selecting sites to study, we ensured that the site provided at least one of these attributes. In the following section, the attribute(s) found at the site appear in parentheses after the school name. Much is already known about the components of these model programs; our aim was to enhance this knowledge base by identifying the systemic and school-community factors that undergird the reforms that are in place at the sites.

We also visited six additional sites that had programmatic features similar to the model sites. This *stepwise replication* was designed to examine the robustness of reform

elements in varying contexts and to assess the effects of system dynamics and school-community status on the performance of these elements. We viewed building sound systemic and school-community relations that are sensitive to diverse circumstances and student populations as perhaps the underlying conditions most necessary for successfully implementing education reforms.

Model Sites

School A (Supportive Climate, Dropout Prevention). School A, located in the rural hill country of west central Texas, evidences a unique governance and organizational structure to meet the needs of students most at risk. Over 40 percent of the students at School A are Hispanic. Many students are at risk on almost every dimension, including over-age for grade, high truancy or suspension rates, below grade level on basic courses, substance abuse, and pregnancy. Attempting to overcome fiscal limitations, eight cooperating districts in this area of Texas pooled their resources to develop the Cooperative Alternative Program (CAP) at School A. CAP serves at-risk students and dropouts drawn from the participating districts. The superintendents of the eight districts, with the leadership of the principal at School A, make up the program's management and governance board. This type of inter-jurisdictional coordination may be a desirable approach to dropout prevention and recovery in remote rural areas. School A was deemed effective in preventing school dropout in a recent national evaluation.

To help inform questions about how poor rural areas with limited resources can meet the complex needs of students at risk, we chose to look at School A's reasonably effective approach to this situation. Decreases in student dropout rates and measured gains in grade averages have been carefully documented over time and are most encouraging (Rossi, 1993). Designated as a model at-risk and dropout-recovery program by the Texas Educational Agency because of its favorable student outcomes, CAP's strategy of pooling resources from several school districts has been replicated in other rural areas of Texas. In 1992, CAP was recognized by the Southwest Educational Development Laboratory as an "Outstanding Rural Program for At-Risk Students" from the southwest region, which includes schools in Texas, Oklahoma, New Mexico, Louisiana and Arkansas. CAP was also recognized by the Governor's Committee on Excellence in 1993.

In addition to the academic and vocational classes, School A's program provides educational services to adult students up to 32 years of age and operates an on-site licensed day care program for the children of students and staff. Extensive staff development is provided for teachers to work with the difficult population of students. By pooling the resources from the participating districts, the program at School A is able to provide individual and group counseling, vocational training, paid-work experience, flexible scheduling, and sensitivity to differences in learning styles. It also has many features that research suggests are key to successful at-risk and dropout prevention programs: small classes, individualized instruction, school-to-work links, and opportunities to participate in accelerated programs. When properly implemented, these

reforms have shown promise at improving the performance of students at risk (Legters and McDill, 1994).

School B (Raised Standards, Supportive Climate). School B is an inner-city public K-8 school located in a northeastern U.S. city. Over 95 percent of the students attending School B are of non-European extraction, with the largest group being African-American. School B is in the fifth year of an unusual effort to implement the curricular and instructional program from a highly competitive, elite private school in an inner-city public school context. Although School B's curricular and instructional approach have changed, the school remains a neighborhood public school, staffed by public school teachers and administrators. In recent years, education reformers have begun to explore public-private partnerships as strategies for improving schools. We felt that by studying the strategy and success of School B's program, we could inform discussion of similar and more broad public-private ventures. The duration of this program, started in Fall 1990, makes it useful for exploring issues of gradual, sustained reform.

A three-year evaluation, funded by the Abell Foundation (Stringfield, 1993), found that students involved in School B's program scored, on average, 20-40 percentile points higher than pre-program students had scored on the same tests during previous years. Program students in first, second, and third grades scored at or above the national average on a widely used norm-referenced test (the CTBS), and on a norm-referenced test used in private schools (the ERB). The principal observed that the halls and classrooms of School B, once noisy and occasionally violent places, had become orderly, and an academic focus came to permeate the building. In addition to the dramatic improvement in student achievement and attendance, special education and Title I assignments decreased under this program. These unusually strong positive outcomes are consistent with the reliable implementation of a proven curriculum.

School C (Supportive Climate, Dropout Prevention). School C, located in the midwestern United States, serves a population of inner-city youth. Since 1986, School C's school-within-a-school/New Horizons project has provided counseling, attendance monitoring, career-related instruction, and work experience to high school students at risk throughout School C's public school system. Many at-risk students have multiple needs. Recognizing this, administrators in the School C's district combined two program components believed to help at-risk youth: (1) smaller class sizes with more individual attention and (2) work experience combined with job-related skills acquisition. Students in the New Horizons/ School-Within-a-School (NH/SWS) program attend SWS classes and receive instruction in academic subjects identical to the regular curriculum, as well as life skills and career exploration activities. As long as students remain in school, they receive after-school, paid jobs for an average of three hours per day, 15 hours per week. Three work advisors hold weekly group sessions for participants on job-related behaviors and skills, make job placements, monitor students' performance on the job, and visit students' homes. Looking at both the comparisons of dropout rates for individual years and the cumulative comparisons of the lengths of time to dropout for individual students over a four-year

period, the NH/SWS Program has demonstrated its effectiveness in keeping students at risk enrolled.

This program was designated as a dropout demonstration project by the U. S. Department of Education. School C's program also benefited from a state law allowing for local taxes to be levied to help fund programs for at-risk youth instead of requiring districts to go through the more typical process of trying to pass a bond measure to increase funding to schools. The NH/SWS program has many of the features that research suggests are key to successful at-risk and dropout prevention programs: small classes, individualized instruction, school-to-work links, and opportunities to participate in accelerated programs. When properly implemented, these reforms have shown promise at improving the performance of students at risk (Legters and McDill, 1994). The program provides counseling, attendance monitoring, career-related instruction, and work experience to its students. Our aims in visiting the NH/SWS program were to examine whether the effectiveness of the reforms had lasted over time and to assess the effects of system and school-community dynamics on the performance of these elements.

School D (Raised Standards, Supportive Climate). School D, located in a large city in Texas, is an inner-city elementary school located in an industrial and warehouse district of the city. The larger district serves a population that is 84 percent Hispanic, 5 percent African-American, 8 percent Caucasian, and 2 percent Asian. Fully 96 percent of School D's students receive free or reduced-price lunches, 28 percent are classified limited English proficient (double the district average), the school has the 12th highest mobility index among the district's 60+ schools, and the school's annual per pupil operating expenditure is below the district average (Schubnell, in press). Through long-term involvement in Trinity University's Smart Schools project and more recent participation in the Core Knowledge curriculum program, School D is not only producing test scores at and above the national average, but it is also providing a dynamic academic atmosphere for students and adults.

The school's approach shows how curriculum can be multicultural and also grounded in the "classics" (e.g., Greek and Roman mythology, Shakespearean literature, Mayan temples and foods, African villages, Asian customs), and students seem to be gaining solid academic skills while gaining substantial amounts of "cultural capital." Wide community support for the program at School D is evident in the numbers of volunteers from service agencies and local postsecondary institutions working with students in classrooms. Thus, instead of a curriculum focusing on basic skills, students learn basic and not-so-basic skills through materials conveying useful and interesting information (historical, cultural, literary, artistic). It was in part this approach that gained School D a reputation for having something special to offer at-risk and other youth.

In spite of its at-risk population, School D is an example of a school serving a population of bright, outgoing students to whom another school might have been tempted to offer a simplified curriculum. The halls and classrooms of School D are filled with students' interpretations of South American and African art, Egyptian, Greek and Roman Gods, and

European architecture, and Hispanic, free-lunch, elementary-grade students referencing Macbeth and Romeo and Juliet! By fifth grade, both attendance and state test scores are well above district averages (Schubnell, in press).

School D is a school where responsible teachers and administrators have sought to educate themselves and do the best for their students, even when that means additional time investments on their part. They are connected with other parts of their community—a department of education at a local private university, businesses, school-business partnership organizations, nonprofit organizations, and public agencies—who can contribute to the resources and goals of the school. They have also made use of E. D. Hirsch Jr.'s ideas regarding cultural literacy (*Cultural Literacy: What Every American Needs to Know*), initially with understandable caution and skepticism, given the academically perceived potential of such an approach to be "Eurocentric" and/or irrelevant to students from non-European-American ethnic backgrounds.

School E (Raised Standards, Supportive Climate, Dropout Prevention). School E, located in rural Pennsylvania, serves about 550 9th-12th graders. The school population is approximately 99 percent white; only 8 percent of the students are disadvantaged (as determined by free or reduced-price lunches), and there are no limited English proficient students. Almost all 9th- and 10th-grade students at School E are organized in 80- to 100-student "teams." Each team is served by an interdisciplinary faculty group that includes one teacher of English, history, math, and science. Faculty teams meet together one hour per day to discuss progress on cross-disciplinary units and the progress being made by individual students. Nontracked student teams work together on integrated curriculum units. A recently completed longitudinal study of promising programs found that School E was well on its way to implementing the Coalition of Essential Schools (CES) program. CES schools, or "sizer schools," are built around nine common principles that are intended to characterize more humane and more intellectually challenging schools for students.

The CES program model is at the forefront of the school-restructuring movement in the United States. Over 700 schools were using CES ideas in 1994, and the program developer, Theodore Sizer, has recently received a substantial grant to extend research and development. Widespread implementation, combined with minimal evaluation, suggests the need for a closer look at the model. School E was nominated as an exemplary CES site by the Education Commission of the States, a group which helps operationalize CES ideas. Findings from this case study reinforce findings from the limited research base on CES. Program implementation is compromised by the difficulty of incorporating all students and staff. For example, scheduling difficulties prevent groups of students who receive advanced or remedial assistance from participation. Staff opposition to the program can divide the school. However, within the program, staff and students at School E seem to have developed a sense of community, and teachers felt that the CES program allows them to work more closely with students.

School F (Raised Standards, Supportive Climate, Dropout Prevention). School F is a neighborhood elementary school serving grades K-5 in Pennsylvania. Approximately 57

percent of School F's students are Asian, 19 percent African-American, 19 percent white, and 4 percent Hispanic. School F has an enrollment of approximately 1,100 students. Seventy percent of these students are enrolled in three charters and one academy at the school site. In 1988, School D's public school system began implementing charters in their 22 comprehensive high schools. Since the city in which School F is located also has a system of magnet schools that historically has attracted the better students from the system, the comprehensive high schools in this district serve primarily students most at risk. Therefore, the charter schools provide a potential context in which to study the effects of school-community dynamics as well as other environmental support systems that likely influence the institutionalization of a program that seeks to address many of the problems related to large, urban high schools serving socioeconomically disadvantaged youth.

The objective of the charter[ing] reform is to enable educators and parents to "reinvent" the governance structures, instructional programs, and community linkages of high schools in order to improve educational opportunities for students at risk. For example, in a high school, "charters," or intellectual communities, are created in which relatively small, heterogeneous groups of students are assigned to about 10 core teachers who work with students until graduation. At School F, the Trades Charter provides an integrated academic and vocational curriculum. The Cities-in-Schools Charter serves those students who are repeating at least one grade level. The Hospitality Charter is designed around career exploration and hands-on experience in travel and tourism. The Business Academy, the most rigorous of the programs, was established to prepare students to succeed in obtaining and maintaining quality jobs after graduation from high school. According to Michelle Fine (1992), "charters" such as these provide students with both emotional stability and intellectual engagement. Fine also states that these charters change the context from that of placing students at risk to that of "educational communities of resilience." Available data collected by the program suggest that charter students outperform noncharter students in attendance and course passage.

School G (Raised Standards, Supportive Climate). School G, a K-8 inner-city school in the midwestern United States, serves a student population consisting of approximately 770 African-American children, of which 95 percent are eligible for free or reduce-priced lunches. Most of these children begin school with severe language deficits that must be addressed by the school's faculty. In 1983, at the front of many of the reform efforts that began during the 1980s, School G's district superintendent introduced the "Paideia" concept to the city's schools. That fall, faculty at School G, along with three other schools in the system, began implementation of Mortimer Adler's *Paideia Proposal* (1982). The *Paideia Proposal* provides a framework for "a course of study that is general, not specialized; liberal, not vocational; humanistic, not technical" (Adler, 1984). It is a way to provide School G's students with an education that more closely resembles that received by children in affluent college-preparatory schools, rather than continuing to use a hodgepodge of special programs designed for low-achieving children. We chose to visit School G because of its long involvement in the Paideia program and because of the

opportunity it offers to examine the school reforms in School G's city in an "at risk" context.

The Paideia program is based on Mortimer Adler's concept of how children should be educated in a democratic society. The Paideia program seeks to develop all aspects of the students' cognitions: "acquisition of knowledge, development of intellectual skills, and enlarged understanding of ideas and values" (Adler, 1984). The program also makes curricular suggestions based primarily on great pieces of western literature and conceptual understanding along with three "modes of learning and teaching: didactic instruction, coaching, and Socratic seminars." Not only are academic demands high, but observers have also described the school as an island of safety and comfort in an otherwise drug- and gun-infested, dangerous part of School G's city.

The Paideia program at School G is now 11 years old. The children's standardized test scores show no viable improvements as a result of the program. However, it appears to be inhibiting the potential rapid decline in scores seen in inner-city schools without special programs (Stringfield, 1993). The outcomes of Socratic seminars have been measured primarily by survey data obtained from students, teachers, and parents. The results range from the children's being better able to express themselves than years ago, or than might be expected, to their reading a wider variety of books. Despite the absence of test-score improvement, the faculty of the school and the members of the community believe that the program is a viable one for this population of children, and they are unwilling to give it up without working diligently to make it a successful program. This faith in the framework and basic philosophy of Paideia makes School G an interesting context in which to study the effects of school-community dynamics as well as other environmental support systems that influence the institutionalization of a program in a school whose constituents are virtually all at risk.

School H (Supportive Climate). School H, located in California, serves an ethnically mixed population, including students from first- or second-generation immigrant backgrounds. Students come to the school from a wide range of language backgrounds, and some teachers are bilingual and/or have a Language Development Specialist (LDS) credential. Nearly half of the students qualify for free or reduced-price lunches. School H is an example of a school that works to make sure all of its students do well academically, socially, and emotionally. It is committed to building good relationships between individuals, regardless of ethnicity, gender, age, class, or other differences. It is a member of the Child Development Project (CDP), which emphasizes building community, and it participates in a number of other local programs designed to assist schools in providing high-quality math and science classes. The program has aided teachers in understanding how children develop and in using this knowledge to enhance and improve many aspects of school life for students. We chose to visit School H because it is a Child Development Project site.

The CDP was designed to enhance children's sociomoral development as well as their intellectual development; currently its work is targeted at the elementary school years.

"Sociomoral," a term that CDP project staff use interchangeably with "prosocial," includes elements in four domains: cognitive characteristics; affective, motivational, and attitudinal characteristics; behavioral competencies; and action tendencies. The CDP includes several programmatic elements—a comprehensive classroom program, a set of schoolwide and community services, and a parent program—and strives to create caring communities in schools. Currently, 12 elementary schools in 6 districts across the country have adopted the CDP. At several sites, the project has succeeded in revitalizing ineffective programs: changing teacher behaviors, affecting positively students' perceptions of their teachers and their schools, and improving students' school performance. CDP sites serve a diverse constituency and include Title I schoolwide programs and programs working largely with Hispanic and migrant populations.

School I (Supportive Climate, Dropout Prevention). School I is located in the Rocky Mountain region of the United States. School I's district serves Hispanic and Native-American summer migrant students. Approximately 50 percent of each summer's class of students attend the district's regular school program during the school year, and about half spend their winters in Texas, Mexico, or other southern states. As a transitory population, migrant students often cannot take full advantage of school-year programs for at-risk students. Programs that are geared towards the needs and schedules of these students, especially programs with native language support for limited English proficient students, warrant further analysis. The summer migrant program examined at School I was identified by the state Title I director as an exemplary program for migrant and settled-out migrant students. This case study identifies difficulties endemic to programs serving migrant populations. School I's program, which has received state and national recognition for its efforts, employed two outreach workers who canvassed local farms with migrant workers encouraging school-age children and young adults to participate.

Some of the students at School I, especially the children of Mexican workers, entered the summer program having had virtually no formal schooling. The program has developed a curriculum that builds on students' prior academic experiences without ignoring or punishing students who enter at levels well below their expected grades. The district's director of federal programs and the school's principal work with the state's migrant program director to create and sustain a program that encourages and closely monitors students' progress in basic reading and math skills, computer literacy, and integrated research, writing, and art work.

School J (Raised Standards, Supportive Climate). School J is a Title I schoolwide project and a year-round K-6 school located in the third largest school district in California. The school's 905 students reflect the diverse culture of the city: 35 percent Hispanic, 35 percent various Asian immigrant groups (Hmong, Vietnamese, Laotian), 15 percent African-American, and 15 percent "other," including white. Over 75 percent of the students receive free or reduced-price lunches, and many of the Asian and Hispanic students are limited English proficient. School J was visited on two previous occasions as part of previous studies of exemplary schools serving disadvantaged students (see Helpler et al., 1987). In the mid-1980s, the school was nominated by California's Title I office and

by the Northwest Regional Educational Laboratory as providing superior services; in the late 1980s, School J was recognized nationally, and was studied as one of 20 exemplary national programs serving Title I students (Stringfield et al., 1988). Since we were interested in studying sites with long-term, stable records of providing exemplary services and producing exemplary effects in diverse communities, School J was one of our first choices. The fact that School J was continuing to offer exemplary services despite the loss of its former principal and its superb specialist teacher made the visit all the more relevant to the issue of sustainable exemplary services.

For a decade, School J's students have scored above state and national averages on the California Assessment Program and on other normed tests. The school's Super Kids program has been copied by several other schools in the district and around the state. School J is virtually free of the types of violence and disorder that have harmed neighboring schools. In addition, School J and several surrounding schools have become "year-round schools." In these cases, the designation meant that the school facility was used 48 weeks a year and served essentially four-thirds the normal number of students by rotating students through complicated block-scheduling schemes that involved 12 weeks of schooling, followed by 4 weeks of vacation, followed by 12 weeks of schooling, and so forth. Such scheduling efforts are increasingly common in California and other cash-strapped areas of the country, especially in schools serving large numbers of students placed at risk. The opportunity to visit one such site was attractive.

School K (Raised Standards, Dropout Prevention). School K, located in Pennsylvania, has implemented the Success for All program. Located in the inner city, the school serves a mixed Asian-immigrant and African-American community. This site has been the subject of three previous evaluations, all of which have reported positive findings. In addition, learning activities at School K—as at most Success for All sites— have recently been boosted as a result of a development award from the New American Schools Development Corporation. At the same time, School K has recently undergone a change in principal, is presently part of a search for a new district superintendent, and has had its Title I funds reduced by the maximum amount allowed (i.e., 15 percent) due to population shifts reflected in the 1990 census. For these reasons, School K presents an excellent opportunity to observe a highly successful implementation of a well-researched program at a moment when the implementation may be under considerable stress.

Success for All is a schoolwide restructuring program designed to see that students begin with success in the early grades and then maintain success through the elementary years (Slavin et al., 1992, 1996). Longitudinal studies, using matched control students in matched schools, consistently indicate that Success for All improves student achievement, especially for students with initial low achievement. The specific program explored here, at School K, was selected by the program developer as a representative example of Success for All. Evidence from School K also suggests that Success for All improves student achievement and is especially effective in balancing the needs of students with limited English proficiency. The curriculum and instructional methods are based on research on effective education and were implemented faithfully. School K's program

seemed to benefit from staff working together in a supportive community to achieve common goals. Program stability was built upon consistent funding, staffing, and district support.

School L (Supportive Climate, Dropout Prevention). School L is located in an inner-city, financially distressed area in the northeastern U.S. Its students are 95 percent African-American and come from a neighborhood that consists primarily of rentals and substandard quality low-rise housing units. School L is one of the original Comer School Development Program (CSDP) schools and began its involvement in the CSDP during the 1985-86 school year. James Comer's School Development model, developed at the Yale Child Study Center, provides a blueprint for restructuring schools around the needs of the whole child. The program, which is operating in over 150 schools in 14 districts across the country, is curriculum-content-free and, in principle, could be adapted to diverse local curricula. School L was selected as an exemplary Comer school by staff at the Yale Child Study Center and is regarded by school district and CSDP staff as one of the program's outstanding implementation sites.

Research suggests that the CSDP has a positive effect on students' academic and affective growth. A recent three-year study of "promising programs" praised the Comer program at School L, finding that it provided a safe climate for students' learning with high expectations for student performance shared by school staff and parents. As a result, achievement gains for students at the site were unusually large. The major elements of success at School L were an extraordinary, caring, and dedicated principal; a committed and competent staff; the realization that success is a multiparty game involving many community agencies; an adequate dose of training to implement the components over a multiple-year period; and a model that is effective if the above elements are in place. The school boasted outstanding staff morale, shared decision making, and competent teachers. Interestingly, school-level staff very rarely mentioned the Comer model; however, this is not to say that the pieces were not in place. Rather, staff had taken ownership and believed the school was effective because of their input.

Replicate Sites

School AA. School AA, located in Pennsylvania, has three in-school charters and one in-school academy. The charters serve approximately 400 of School AA's 1,200 students, while the Law Academy serves an additional 200 students. The charters focus on Humanities, Multicultural Influences, and Venturing into Professions, and they feature a similar core curriculum with different electives. The Law Academy, which is privately funded, has its own governing board, greater autonomy than the charters in selection of curriculum, and more rigorous admission standards.

School BB. School BB, located in California, has an enrollment of 550 students in grades 9-12. The student body is diverse (e.g., about half the students are members of minority groups) and is served by 35 teachers and administrators. Since adopting the principles of the Coalition of Essential Schools, the school has re-examined the roles and

responsibilities of its teaching staff and broadened the scope of student work so that real-life problems come clearly into focus under an academic lens. School BB has reshaped its schedule into 95-minute periods that meet two to three times weekly, strengthened connections between courses across the curriculum, and established a mid-year "Interim Week" in which students explore one subject in depth on or off campus.

School CC. School CC, located in California, is a Catholic school serving grades 9-12. The school's philosophy is to make the average student better and the below-average student average; however, college preparatory classes are not compromised, and peer pressure works in a positive way. A student with two failing grades in one semester is admitted to an "opportunity" class where individual attention is given and mainstreaming into regular school after one to two semesters is possible. This academy does not rely on the parish for funds, so all monies are generated by the school.

School DD. School DD serves a K-5 population in Texas. The school has adopted the Core Knowledge curriculum as a major supplement to the district's regular reading and mathematics curriculum. While the program has been in place for less than 2 years, and is thus too early in the implementation cycle to accurately judge effects, the halls and classrooms are covered with strikingly advanced student work. For example, a third-grade class displayed student art/science work on five types of galaxies. Artifacts from an extended first-grade unit of Japanese culture were equally striking.

School EE. School EE is located in the southeastern United States. The school serves a racially mixed student body. School EE was the first school in the region to adopt the Paideia model of school restructuring, and in the last year has become a Paideia magnet school. The school has had many Paideia successes, including some evidence of achievement gains and evaluator-observed increases in students asking higher order questions; however, full implementation remains a not-yet-achieved goal.

School FF. School FF serves a K-5 population in the northeastern United States. The community being served is 100 percent African-American, and the over 90 percent of School FF's students receive free or reduced-price lunches. The school has completed one full year of a four-year effort to implement the Calvert Curriculum. The school is too early in the implementation cycle to accurately judge effects; however, first-year achievement data in first grade indicate 15-20 NCE gains over previous cohorts at School FF. The strongest implementing first-grade class had mean CTBS reading scores above the 90th percentile.

Cross-Site Analysis

The case study summaries above have described in detail each of the programs. The focus of the analysis in this section is on themes cutting across these programs. The first part of the section presents an overview of the characteristics of the programs and the context in which the programs operate. The next part explores the schools as learning communities, focusing on common characteristics and effective approaches for building such communities. The final parts analyze these programs for structural characteristics that support learning communities by making these programs work well, potentially consistently, in diverse contexts.

Program Overview

Although each of the programs in this study was unique, we have concluded that several characteristics which lead to the programs' success are held in common. This part reviews some of the shared characteristics of the 12 programs, in light of the research literature in those areas (see Table 1).

TABLE 1. Program Overview

School	Context	Program	Grade	Participants: Students[a]	Participants: Staff[b]
A	Rural, depressed area	Separate high school for at-risk students	School: 9-12 Program: 9-12	40% Hispanic	12 teachers 1 principal 1 counselor
B	Inner city, neither best nor worst neighborhood	Private school curriculum and instruction	School: K-8 Program: K-4 (expanding to K-8)	70% free lunch 95% nonWhite	10 teachers 7 aides 1 coordinator
C	Inner city, emerging city problems	New Horizons work program and small classes	School: 9-12 Program: 9-12	120 in program 80% White	9 work advisors 1 director
D	Inner city, decaying industries	Core Knowledge	School: elem Program: elem	523 in program 96% free lunch 28% LEP 85% Hispanic 9% White 4% Black 2% Asian	25 teachers 9 special education teachers 2 admin. 1 facilitator
E	Rural, blue collar	Coalition of Essential Schools	School: 9-12 Program: 9, 12	100 9th grade 30 12th grade 10% free lunch 99% White	7 teachers
F	Inner city, depressed area	Charter School	School: 9-12 Program: 9-12	775 in program 43% Hispanic 32% White 17% Black 8% Asian	63 teachers 4 coordinators
G	Inner city, drug-infested neighborhood	Paideia	School: K-8 Program: K-8	769 in program 94% free lunch 100% Black	30 teachers 1 coordinator
H	Urban, neither best nor worst neighborhood	School Community focus; Child Development Project affiliation	School: K-5 Program: K-5	385 in program 49% free lunch Large ESL population	16 teachers 1 district coordinator
I	Town near farming and business, economic upswing	Summer migrant program	School: 1-6 Program: PreK-12	420 registered 250 ADA Mostly Mexican-American Some Kickapoo	8 teachers 8 aides Principal 2 recruiters
J	Urban, high poverty, multicultural	Superkids	School: K-6 Program: K-6	33% LEP 56% Hispanic 23% Asian 15% Black 6.3% White	39 teachers
K	Inner city	Success for All	School: K-5 Program: K-5	57% Asian 19% Black 19% White 4% Hispanic	22 teachers 7 aides
L	Urban, decaying	Comer School Development Program	School: PreK-6 Program: PreK-6	95% Black 80% free lunch	25 teachers Master teacher Parent liaison

a. The poverty marker, "free lunch," includes students receiving free or reduced-price lunch.

b. This column identifies dedicated staff. All schools also have administrative and support staff.

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Programs

Education research is divided on the effectiveness of top-down versus bottom-up education reform. One branch of research suggests that reforms which stem from stakeholders, such as teachers, reflect this group's priorities and are more likely to receive widespread support and implementation.[16] A contrasting branch recommends external development of education programs, under the premise that the expertise and consistency of professional program developers is difficult to continuously duplicate in an overtaxed and constantly shifting teaching population.[17] Of the 12 programs included in this study, 7 were developed externally: private school curriculum, Coalition of Essential Schools, Success for All, Paideia, Core Knowledge, Child Development Project, and the Comer School Development Program. Five programs emerged from school and district staff: New Horizons, the separate school for at-risk students, the summer migrant program, Super Kids, and the charter schools. The externally developed programs were adapted to fit in the specific school contexts and to meet the needs of local teachers and students. The internally developed programs typically received strong support from district- and state-level personnel, in two cases as part of a districtwide strategy. However, none of the 12 programs was clearly top-down or bottom-up. Administrators and teachers alike showed support for the new programs.

Although all 12 programs are geared towards helping at-risk students achieve in school, each program has unique goals and strategies. Some involve whole-school restructuring. For example, the Cooperative Alternative Program creates a separate high school for students at risk of dropping out. Five programs (the private school curriculum, Success for All, Paideia, Core Knowledge, and the school community/Child Development Project) dramatically change the curriculum and instructional approaches across the entire school. Four programs (New Horizons, Coalition of Essential Schools, the summer migrant program, and the Charter Schools) provide a special program for selected students in the regular school context or outside of the regular school year. Yet even these four programs provide a full-day experience for the students involved. Research supports the concept that comprehensive and multifaceted education reform is more likely to affect students' education experience than piecemeal programs.[18]

16. Newmann, F.M. & Wehlage, G.G. (1995). Successful school restructuring: A report to the public and educators. Madison, WI: Center on Organization and Restructuring of Schools.

17. Slavin, R.E., Karweit, N.L., & Madden, N.A. (1989). Effective programs for students at risk. Needham Heights, MA: Allyn and Bacon. Note that the advantages of this program dissemination approach are assumed in the National Diffusion Network and, in other ways, by the New American Schools Development Corporation designs (see Kearns, D. & Anderson, J. (in press). The goals and status of the New American Schools Development Corporation. In S. Stringfield, S. Ross, & L. Smith (eds.), Bold plans for school restructuring: The New American Schools Development Corporation Designs. Mahwah, NJ: Erlbaum).

18. Stringfield, S. et al. (in press). Urban and suburban/rural special strategies for educating disadvantaged children: Third year report. Washington, DC: U.S. Department of Education.

Schools and Participants

Some research suggests that programs geared towards younger at-risk students are more likely to be effective than those for older students.[19] However, for this study, we felt it was important to identify programs that work well for students in kindergarten through 12th grades, including returning dropouts. Seven of the study schools were elementary schools, some ending at 5th grade and some at 8th grade. Four others were high schools, serving grades 9 through 12. One school enrolled students from prekindergarten through 12th grade, although the older students tended to participate through self-study packets. The student populations of the programs studied tended to be high poverty (up to 95 percent free or reduced-price lunch recipients) and high minority (up to 100 percent African-American or 96 percent Hispanic). Most of the programs were medium-sized, involving 100 to 800 students.

Several issues emerged in relation to program staff. First, oversight of a coordinator or the special attention of the principal helped maintain program consistency. Six programs used coordinators or directors, sometimes at the district level and sometimes at the school level. The principals were involved in all of the programs—at minimum in a supportive role. In some schools, such as the Cooperative Alternative Program, the summer migrant program, and Super Kids, the principal played a central role in implementing and maintaining the program, often in lieu of a program coordinator. Some programs ensured that critical tasks were carried out by hiring staff dedicated to these jobs. For example, two programs developed special staff positions—the summer migrant program used recruiters to inform students about the summer programs, and New Horizons used nine work advisors to support and teach student workers. The selection of teachers also played a role in program implementation. Most of the programs recruited extensively, sometimes drawing upon pools of university interns, and often selecting teachers with experience or a proclivity to work with at-risk students. All of the programs had unusually high teacher turnover rates in the first few years of the program, although the principals uniformly explained this as a process of aggressively weeding out weak teachers or teachers who did not "buy into" the program. Most of the principals expected new teachers to demonstrate an understanding of and interest in the program as a condition of employment.

Expenses and Resources

The interrelated nature of programs and school administration make it difficult to isolate program costs (see Table 2). Most principals cited teacher and coordinator salaries and benefits as the highest cost—approximately 50 to 70 percent of expenses. Staff development and materials, supplies, and equipment also were a large proportion of expenses. Most of the programs' resources were constructed from a patchwork of district support, Title I and other federal funding, and corporate and foundation support. Several programs found significant financial and technical assistance from local universities.

19. Slavin, R.E., Karweit, N.L., & Wasik, B. (1994). Preventing early school failure: Research, policy, and practice. Needham Heights, MA: Allyn and Bacon.

Although cost issues were important, precise figures were both hard to determine and not critical. As a practical matter, if a school and district could arrange their Title I and other categorical budgets (however large) and make a limited number of other adjustments, programs typically were able to find ways to work with local realities.

Community Context

The community context can support or undermine programs for at-risk students. The environment in which the schools were set ran the gamut. Eight schools were located in the inner city; of these, half were in the most depressed parts of their cities. One school was in a small town that was experiencing an economic upswing, and the two rural schools were in impoverished areas. In some cases, the atmosphere of the school reflected that of the community; in four cases, however, the school was a haven from dire community problems. Often, residents of the larger communities had low tolerance for at-risk students and were suspicious of new programs targeting this group. However, some programs, such as New Horizons, were able to overcome this initial distrust and develop strong linkages with the community.

Schools as Learning Communities

A sense of "community" is concerned with the deep-structure fabric of interpersonal relations.[20] Soundly woven, this fabric permits a shared frame of reference and supports mutual expectations. The relations among adults in schools provide models of behavior for students. The ways in which teachers, administrators, and classified staff persons relate to students also define the conditions within which teaching and learning of specific subject matters take place. In addition, these relations determine a school's readiness to undertake and sustain efforts to achieve shared goals (e.g., making a campus a safe haven or raising reading achievement scores), and they define a school's image in its neighborhood—for parents, other residents, local business-persons and shopkeepers, and community-based service organizations. The quality of these relations is critical to all facets of school operation, yet it is typically taken for granted. In our experience, the quality of these relations in typical schools is much lower than it must be if schools are to be productive.

In previous studies and in this work, we have noted several attributes of the relations in schools that were associated with effective programs or periods of program effectiveness: students felt cared about and respected, teachers shared a vision and a sense of purpose, teachers and students maintained free and open communication, and all parties shared a deep sense of trust. Visits to these and other sites confirmed that the weakening or absence of these attributes often accompanied program failure. Building on studies of community

20. Gardner, J.W. (1991). Building community. Washington, DC: Independent Sector.

TABLE 2. Fiscal Background

School	Expenses	Resources	
		Fiscal	Nonfiscal
A	Instruction (50%) Staff salaries and benefits (92%) Supplies and equip. (3%) Operation (20%) Wages (60%) Building (20%)	$796,000 (1993-94) State: 85% Child Nutrition Fund: 5%	
B	Coordinator's salary Staff development ($23,000/4 yrs) Books ($47,000/4yrs) Equipment and materials	$300,000/4 yrs	Community volunteers Volunteers from private school
C	Staff salaries (57%) Benefits (14%) Youth wages (20%) Services, supplies, and materials (6%)	$1,709,929 (1992-93) School: 27% Taxes: 37% City: 18%	
D	Increase teacher aide ratio Staff development Materials, supplies, and equipment Parent involvement Full-time librarian Full-time art teacher	Title I SW: $279,000/yr Grants and awards: $6,000/yr/5yrs, $100,000 one time District: funded FT librarian and art teacher	University: technical assistance, interns Community: numerous volunteers
E	Staff development Travel to national meetings Materials	Chapter 2: $25,000 District: $25,000 startup State: $10,000 (1991-92)	Teachers: volunteer time
F	Extracurricular ($139,940)	Charter School grant: $2,700 Title I SW: $478,669 Special education: $750, 580 Education for Employment: $64,730 ESOL: $328,520	Few
G	Coordinator's salary Reduce Title I class size Materials Staff development	Title I Desegregation funds Corporate support: $100,000/yr/5 yrs, then reduced support	
H	Extra meeting time Staff development Materials	Child Development Project Desegregation funds	Staff goodwill
I	Staff salaries (66%) Transportation	Title I Migrant Education: $89,000 (1991)	District: plant, utilities, principal's and district staff's time University: technical assistance, 50% salaries for summer interns Health dept: medical, health, dental care
J	Coordinator's salary Staff development	Title I (as available) State compensatory funds (as available	Ongoing goodwill and extra effort of staff
K	Coordinator Aides Staff development Materials	Title I Foundation grant	Staff support University: technical assistance
L	Extra meeting time Ongoing staff development	Title I Small grants	Staff goodwill University: technical assistance

in work and school settings,[21] we have formalized 10 defining elements that characterize adult, student, and adult-student relations in schools that are communities:

- Shared Vision
- Shared Sense of Purpose
- Shared Values
- Incorporation of Diversity
- Communication
- Participation
- Caring
- Trust
- Teamwork
- Respect and Recognition

Schools that consciously work at strengthening these elements are, in our view, building the necessary foundation for excellence.

For schools serving many poor students, this work presents special challenges. Personal, monetary, and material resources in these schools are likely to be stretched thin, so that opportunities for investment in community-building are often severely limited. In addition, because of differences in ethnicity, culture, or socioeconomic status, incorporation of diversity in these settings requires special talent and dedication. Our case study sites offer distinctive examples of achievement along selected community dimensions. In addition, study of these sites reveals five strategies for making best use of creative and committed individuals to build community.

Shared vision, purpose, and *values* have most often resulted in our sites from efforts to define common educational goals and goals for working with students. In some cases, principals with a forward view, who were willing to work persistently to change staff attitudes, or staff persons themselves have succeeded in building emotional and practical supports among staff for student-related outcomes. In one case where the "founding" principal had left, staff members continued to shape their vision for the site in terms of shared values originating in their commitments to their students and to one another.

Strong principals are often those who have succeeded in achieving shared vision and purpose by listening to and working with their staff, students, and parents to reach consensus. A program or problem focus also has been an instrumental force. In one site, program emphasis on cooperative learning gradually spread to the entire faculty and staff, welding the adults at the school into a family. At another site, the infusion of a private school curriculum into all grades at this public school provided the neighborhood with

21. For example, Rossi, R.J. & Royal, M. (1994). Measuring workplace community: Final report to the W.K. Kellogg Foundation. Palo Alto: American Institutes for Research.

new pride and staff with a shared context for discussions of learning objectives and student progress. At an alternative school site that was created by eight school districts in a rural area to address the needs of students placed at risk, the various principals and staff took on the challenge and fashioned a unified approach together with their students.

Incorporation of diversity is a hallmark characteristic of all the successful sites we visited. Teachers and administrators actively sought out the distinctive talents of their students, and they came to see great value in a diversity of linguistic abilities. In one site, problem solving discussions among students could be heard in Vietnamese and Spanish; at another, aides "talked like the students talk" on the playground to facilitate conversation and a sense of closeness. Cultural celebrations were almost the norm in these sites, and the most successful schools developed strong outreach efforts to involve area families and residents in their programs.

Communication and *participation* are closely related, and open-door policies and open forums for discussion at staff meetings were featured ingredients at the most successful schools. New teachers quickly found (or were assigned) mentors and endless opportunities to learn about the school setting and instructional approach. Staff teams—often with parent participants—recommended modifications in current practices or new strategies. Staff development programs strengthened Cooperative Alternative Programabilities for taking part in leadership activities at the sites. At one school, for example, the principal selected different teachers to attend different workshops and asked them to report back their findings, thus building their knowledge and self-confidence. Students at these sites also were regarded as full participants in site activities, and every effort was made to solicit their views on how well programs were working and what could be done to improve them. At one site, no student's problem was "off the table," and individual and group discussion with students were often held in informal settings to encourage active interchange of comments and ideas.

Caring, trust, and *teamwork* are in some ways the results of effective communication and active participation by all parties at the school site. Many of the most impressive sites we studied had created family networks within and across grades or classes. Staff worked hard to engender feelings of trust with their students and colleagues. At one site, for example, teachers brought their classes together regularly and had organized a "buddy system" among older and younger students on the campus. At another site, teachers, vocational specialists, and worksite personnel formed teams to bolster students' self-confidence and increase opportunities for learning. At a third site, school staff regularly greeted every student every morning—with a handshake, a hug, and a review of the previous day's progress or that day's plans. Among staff themselves, caring, trust, and teamwork often arose as a result of sharing the challenges posed by new programs, students with special needs, or neighborhood or district problems.

Respect and recognition were much in evidence in the effective educational programs for students placed at risk that we visited. Even where new programs are being implemented, lack of respect for students—as indicated by harassment and severe punishments—can kill

any chance of positive results. Lack of respect and recognition among staff colleagues also weakens the social fabric of the school and lowers morale. Where positive performance is affirmed, both teachers and students strive to do their best. At one model site, a relatively new-to-campus principal chose to demonstrate his respect for the staff and students by letting them orient him to their successful implementation of their Robert Slavin's Success for All program.[22]

Schools as High-Reliability Organizations

A sense of community in schools, as modeled in varying degrees by the 18 sites visited in our study, provides the necessary foundation for positive change at the campus level. However, we also recognize that the introduction and sustenance of positive change requires district- and state-level supports that are consistent with campus priorities and constant in their emphasis. In developing a framework for examination of these supports, we looked to organizations charged with meeting the daunting criterion of virtually 100 percent failure-free operation.

Air traffic control towers and regional electric power grids are two examples of High-Reliability Organizations (HROs) described by LaPorte and Consolini.[23] Roberts also described characteristics of HROs in diverse settings,[24] and Stringfield examined the likely educational implications of an "HRO response" to the increasing demands that the education system provide high-quality instructional services to all students.[25] In our study of effective programs, we examined each successful case for evidence that curricular and instructional decisions were being made and supported in ways that were consistent with the evolved characteristics of organizations required to operate at high reliability. We found much support for the HRO construct, and, not surprisingly, for its reliance on an established network of quality relations (i.e., community) among all stakeholders on campus. The characteristics of High-Reliability Organizations can be grouped into three categories: mission, management structure and resource management, and professionalism. Findings from this study are explored below in the context of these characteristics.

22. Slavin, R., Madden, N., Karweit, N., Dolan, L., & Wasik, B. (1992). Success for All: A relentless approach to prevention and early intervention in elementary schools. Arlington, VA: Educational Research Service.

23. LaPorte, T. & Consolini, P. (1991). Working in practice but not in theory: Theoretical challenges of "high reliability organizations." Journal of Public Administration Research and Theory, 1(1), 19-48.

24. Roberts, C. (1990). Some characteristics of high reliability organizations. Organizational Science, 1(2), 1-17; Roberts, C. (ed.) (1993). New challenges to understanding organizations. New York: Macmillan.

25. Stringfield, S. (1995). Attempts to enhance students' learning: A search for valid programs and highly reliable implementation techniques. School Effectiveness and School Improvement, 1(6), 67-96.

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Mission

The *mission* of a school encompasses a clear understanding of long-term school goals and policies that support reaching those goals. Further, the mission of the school and the district's priorities must be in synch for the program to survive district budget and staffing decisions. Therefore, high district valuation of the program increases the likelihood that the program will operate reliably.

1. The central goals of HROs are clear and widely shared. On board a nuclear aircraft carrier, the primary mission is to launch and land military aircraft. For a water company, it is to provide clean, drinkable water to all people being served. The principal at one of the sites we studied regularly described the school's goals as preparing young people to be highly successful in the world of commerce. The core task of another site was to ensure that all students would be reading at or above grade level by the end of third grade. At a third site, the core task was to provide a high-quality, demanding education program within an organization that provided each student with the maximum opportunity to pass each grade successfully and graduate.

2. A perception held by the public and all of the employees that failure by the organization to achieve its core tasks would be disastrous. We found similar drives permeating the most successful schools and programs in our study. Parents, teachers, and administrators worked on the various reforms as though academic and prosocial success were critical. At some of our less successful sites, staff sometimes assumed high rates of student failure to be "normal" and associated with failings of the students or their home situations. This link between expected and experienced failure is documented by research on teachers' and principals' expectations.[26]

3. HROs are invariably valued by their supervising organizations. This valuing typically results from the emphasis on long-term reliability over short-term "efficiencies." The program developers with whom we spoke quickly acknowledged that there are whole districts in which their programs could not prosper. Success does not happen in isolation. Rather, successful schools find support from a community of adults working within the school, from the surrounding community, from central administration of a district, from state-level decision makers, and from the program developers themselves. The most successful sites we visited had strong, ongoing connections to program developers. In some cases, the district central administration showed support for the programs by transferring decision making power to the schools, and only intervening when requested (typically, when an arbitrary bureaucratic or fiscal decision at the district or state level threatened the program). In other cases, the superintendent took a more proactive role in identifying and resolving programmatic issues early.

26. Edmonds, R.R. (1979). Effective schools for the urban poor. Educational Leadership, 37(10), 15-24.

Management Structure and Resource Management

The second set of high-reliability characteristics is *management structure* and *resource management*. In a high-reliability organization, the management structure is a flexible hierarchy, governed by standard operating procedures. Further, maintenance and distribution of resources is governed by standard operating procedures.

4. HROs are hierarchically structured, but during times of peak loads, HROs emphasize and honor collegial decision making, regardless of rank. The hierarchical structure provides the backbone of the organization. Clarifying roles and responsibilities helps staff know where to go for specific resources and relegates decision making to the most appropriate, informed staff member. To run a school without such division of labor is like telling a jellyfish to stand tall. The hierarchy must be flexible, however, to allow staff on hand to deal effectively with emergencies across as many traditional boundaries as is necessary to avoid failure, regardless of their role. In more than one school or situation, an inflexible hierarchy interfered with a student's education.

5. HROs extend formal, logical decision analysis, based on standard operating procedures, as far as extant knowledge allows. This is not at all a celebration of bureaucracy for its own sake. Rather, it is an effort to standardize best proven practice in some areas so as to focus human attention on performing nonstandard tasks well. Standard operating procedures eliminate time-consuming decisions in routine situations and are critical in any smoothly operating organization. Running a school without such rules is akin to driving a car without automation: you may be able to get it to run, but you have no time to steer the machine while you are focusing on firing each spark plug and oiling each gear. The curricular frameworks that are used to guide mathematics instruction at two California sites in our study declared that some things must be universal. Such decisions helped shape the considerable next level of decisions that had to be made by professional staff. Importantly, the frameworks provided a level of assurance to each teacher that each year's incoming students would share a common body of knowledge. Such assurance allows a teacher to cover additional material more rapidly or in greater depth. We have found that similar standard curricular and organizational supports can be supplied by well-known national programs, such as Core Knowledge and Success for All.

6. HROs prize vigilance against lapses and flexibility towards rules. Since lapses cannot always be avoided, HROs must prevent them from cascading into larger problems. A child not learning to read by third grade, for example, creates a series of further, complex problems around his ability to use text and around his self-concept. He often generates severe instruction/management problems for upper grade teachers. What might have been a small problem if treated early in school can become a series of major problems. Some of our sites were especially vigilant when it came to early student failures as a result of the instructional programs they had adopted (e.g., Reading Recovery). In other sites, interdisciplinary teams that met on a frequent basis often worked to detect students' problems early, to seek solutions, and to support each student until he or she was able to handle current assignments.

7. In HROs, key equipment is available and maintained in the highest working order. The vocational-technical equipment in some schools we studied was unusually well-maintained. One principal explained that vocational programs are useless unless students are trained to use the most current equipment available. Most of the schools maintained basic classroom equipment, and some provided additional video equipment for special projects.

8. HROs build powerful data bases on dimensions highly relevant to the organization's ability to achieve its core goals. The "4 R's" of these data bases include the following: rich data (triangulation on key dimensions), relevance to core goals, available in real time (i.e., now), and regularly cross-checked by multiple concerned groups. In programs using teacher teams, teachers tended to develop a rich oral history of individual children's skills, needs, and backgrounds. Some program structures, such as the Mental Health Team in School L's Comer program, provide a site for collecting and acting upon information about student needs across the school. The School B program developed thick, year-long "folders" containing all of each student's work. However, most programs did not develop mechanisms for conveying information to teachers in the next grade or to other support personnel.

9. In HROs, fiscal priorities are such that short-term efficiency takes a back seat to very high reliability. A long-term vision is central to the mission of a high-reliability school. School focus on high reliability is evident in attempts to retain funding for programs and policies with long-term effects despite immediate budget or political issues. Stable, long-term funding helped several schools overcome short-term fiscal crises to maintain program integrity.

Professionalism

Professionalism is critical to the smooth functioning of high-reliability schools.

10. HROs rely on professional judgment, regardless of the person's position or rank. To this end, HROs stress intensive recruitment and ongoing training, take performance evaluation seriously, and engage in mutual monitoring (administrators and line staff) without counterproductive loss of overall autonomy and confidence. To meet the criterion of zero catastrophic errors, organizations must be able to rely on the professional decision making of staff. Like high reliability noneducational organizations, the exemplary sites we visited had two universal features: they recruited with unusual energy and care, and they participated in unusual levels of ongoing staff development.

At the same time, it should be noted again that each of these sites experienced an unusually high rate of staff turnover during initial implementation years. As one principal stated, this program "makes it very obvious what is and is not happening in the classrooms." As part of its yearly routine, the leadership team at one of our sites participates in an average of two weeks per year of intensive training, one week of which is shared with the entire school staff. The staff of another site arranged an elaborate series

of staff development exercises each year, some conducted by program developers, some by local university faculty, and the remainder planned and led by "senior" faculty at the site. Established evaluation processes facilitate review and revision of operating rules as needed; evaluation and mutual monitoring were manifest in a variety of forms at the sites we visited. Staff at several schools took advantage of informal "sidewalk meetings" to discuss issues with their principals. At one school, parents capitalized on comprehensive student folders to review class objectives and activities.

Discussion

Clearly, characteristics of high-reliability programs overlap substantially with those of school community. The two concepts are not independent; rather, high-reliability organizations may facilitate the development of schools as learning communities (see Table 3). Below, we explore the ways in which high-reliability organizations enable the development of learning communities.

Shared Vision, Purpose, and Values

Establishing and periodically reviewing program goals can build consensus in the community on the purpose of the program. Goals must be clear. In School E, for example, ambiguity of program goals grew into conflict between teachers and administrators. High consensus on program goals contributed to, or derive from, consensus on more amorphous areas such as values. In School K, for example, teachers reached consensus on their goals for the Success for All program as part of the process of selecting the program. The stakeholders, including district staff, agreed on both the content and the urgency of the goals. Subsequently, staff at School K clearly agreed on values and a shared vision. In School I, on the other hand, a superficial agreement to written goals seemed to mask marked conflict on the vision and purpose of the program. Although there were written goals for the program, the two primary goals, (1) improve students' academic, especially English, abilities and (2) promote affective development and love of learning, were not overtly recognized and coordinated. Rather, they became opposing rallying points for teachers. Without this initial agreement, teachers saw a conflict in values between assimilation and respect for language-minority students, and discussion of shared vision, purpose, or values quickly became a heated, defensive battle. School E offers a more subtle example of the relationship between program mission and shared vision, values, and purpose. This program operated under abstract goals and, because of minimal or adverse interactions with the new superintendent, reacted to short-term concerns rather than a long-term mission. Teaching staff were unable to arrive at any common vision, purpose, or values.

Consensus on vision, purpose, and values can become fragmented without constant maintenance. Establishing standard operating procedures which support the primary goals of the school can help institutionalize consensus and simplify repetitive tasks. Periodically

TABLE 3. Relationship of High-Reliability Organizations to Characteristics of Learning Communities

Community Characteristics	Mission	Management Structure and Resource Management	Professionalism
Shared Vision, Purpose, Values	Clear common goals support discussion, consensus on more amorphous areas such as values.	Initially developing and later reviewing standard operating procedures realigns staff to common purpose.	Evaluation helps realign teachers and administrators to common purpose.
Incorporation of Diversity	Establishing common priorities can minimize divisiveness over different backgrounds.	Mutual monitoring can prevent differential treatment of students.	Acceptance of differences can be a condition for hiring new staff. Staff training can focus on developing tolerance among staff, students.
Communication and Participation	Agreement on importance and substance of goals focuses discussions how to accomplish goals and who can help rather than being immobilized by "why try" questions.	Establishing a regular process for discussion allows communication while issues are still minor and nondivisive, and ensures that important information is conveyed to the appropriate staff. A data base on students facilitates communications, across staff and grades, about students' needs.	Broad training across staff builds a common language among staff. Peer training can increase faculty involvement and can facilitate less formal sharing of strategies and "buy in."
Caring, Trust, and Teamwork	Long-range perspective provides stable, secure environment for staff to develop trust and caring, and to develop team processes.	Clear role definition ensures constant leadership and overt recognition of staff members as team resources. Reliance on all staff in emergencies (situationally flat management structure) requires that staff to trust each other and work as a team even in high stress situations.	Targeted training enables staff to work as a team and builds shared trust.
Respect and Recognition	District valuation can provide staff affirmation.	Reliance on teachers' professional judgment in times of emergency implies respect. Redistribution of responsibilities according to staff expertise shows recognition of accomplishments.	Evaluation gives staff feedback and affirmation. Hiring highly qualified professionals, providing appropriate training, and relying on professional judgment builds peer respect.

reviewing these procedures can ensure that protocol continues to reflect goals throughout the growth of the program. For example, one goal of School A's Cooperative Alternative Program is to refocus students with a history of school-related problems on academic development. The Cooperative Alternative Program adopted a procedure for minimizing conflict before large management problems developed. As more effective procedures have become available, School A has trained teachers to modify their techniques. Administrative support and staff knowledge of management strategies ensure that discipline never becomes a crisis, and teachers and students can focus on academic development.

Evaluation also can realign teachers and administrators to common goals. For example, School B closely monitors each students' activities and progress, serving two functions. First, students' development is constantly being compared to the school's standard of high academic achievement, and so all stakeholders—students, parents, teachers, and administrators—are continuously aware of student progress in relation to school goals. Second, parents can judge whether teachers' activities are in synch with school academic goals by reviewing their children's records.

Incorporation of Diversity

The high-reliability organization promotes incorporation of diversity through its emphasis on mission, management, and professionalism. A clear mission can forestall intolerance among staff. As suggested by School I's summer migrant program, ambiguous goals create a space for staff to form their own, sometimes divisive, priorities. A management policy of mutual monitoring can prevent differential treatment of students.

Highly professional staff can help promote incorporation of diversity. Staff hiring decisions can be based, in part, on an individual's ability to accept differences. For example, after difficulty with the initial staff, School A's Cooperative Alternative Program made a policy decision to require of new hires, as a first cut, ability and interest in working with at-risk students. Given the staff and student population, targeted lessons can ameliorate student prejudices. For example, mixed race acceptance and interaction are especially evident among students at Schools D and K, where multicultural topics are incorporated in the curriculum, and at School J, where teachers deliberately model acceptance of other cultures.

Communication and Participation

The structure of high-reliability organizations provides a stable platform on which to build good communication and participation across the community. A standard procedure for discussion, whether formal or simply understood, allows staff to discuss minor issues before they become crises. For example, teachers at several schools use "sidewalk meetings," as they supervise bus loading, to raise matters of concern with each other and the principals. At other schools, teachers share information and build oral histories about individual students during regularly scheduled team planning time. Staff development,

which helps teachers construct a common language, can facilitate communication among staff, and peer training improves staff participation. Teachers at School H, where staff development is based on teacher presentations, are particularly supportive and involved in training. These teachers interact frequently outside of training sessions, and sometimes outside of school.

Caring, Trust, and Teamwork

The long-range perspective of high-reliability organizations can provide a stable, secure environment for staff to develop collegial trust and caring, and to improve team processes. In School E, frequent turnover of administrative and district staff precipitated short-term crises, made some teachers cautious about the security of their program, and emboldened opponents. One teacher pointed out that because "the rug has been pulled out so many times, we're reluctant to stand on it and say that's gospel." In School J, on the other hand, teachers had 10 years of consistent experience in collegial working through of tough decisions. Faculty believed that the group would be allowed to reach consensus on matters related to core tasks and that those decisions would be acted upon.

Clear role definition also contributes to the functioning of the team by ensuring constant leadership and distributing responsibilities among staff. At School I, for example, teacher committees are responsible for the daily functioning of the program. The principal directs issues to the appropriate committee chair, and checks that the issues are addressed. The Mental Health Team at School L addresses matters related to student or staff emotional well being. These structures involve staff in the effort to nurture caring and trust in the community.

Over years, the development of caring, trust, and teamwork never evolve by chance. Targeted training can help staff learn to work as a supportive unit. For example, learning partners at School H meet monthly to work and plan. Some partners also meet informally to extend the collegial sharing.

Respect and Recognition

Respect and recognition of teachers and of students tend to occur together, and not necessarily in the context of community respect for either teachers or students. This phenomenon suggests that it is possible to build a community based on respect and recognition, despite extracommunity judgments. Several high-reliability-organization characteristics contribute to community esteem.

When a program's mission is clear, and standard operating procedures include regular evaluation, it is easier to recognize and honor a job well done. School B maintains a high academic standard, using a standard curriculum. Students' folders show clear evidence of their progress through the curriculum, and students' accomplishments are visible on the walls of the classrooms and halls. Evaluation also provides opportunity for teacher

affirmation. Granting additional responsibilities, as School I does with committee chairs, is another recognition of especially competent teachers.

Conclusion

Together, the characteristics of high-reliability organizations help construct school communities conducive to academic learning and affective development in all students. Not all of the programs we visited functioned as high-reliability organizations; those that did not tended to be less successful at developing learning communities. Although we examined a small number of sites, the intersection of structural characteristics and community development illuminate a promise of schools geared towards helping at-risk students.

Assessment of the Outcomes of Reforms

In this section, we present evidence that the individual and collected group of schools/programs that we studied produced desirable effects. Among the elementary school programs, effectiveness is examined in terms of staff capacity and norm-referenced achievement. Among secondary programs, simple measurement of effects is necessarily more complicated and contextual.

Puma et al. (1993) found that within their carefully weighted, representative sample of U.S. third-grade students, the mean Normal Curve Equivalent (NCE)[27] score on the Comprehensive Test of Basic Skills (CTBS) in reading was 53.4, corresponding to the 56th percentile on the norming tables provided by CTB/McGraw Hill. By contrast, the mean Total Reading NCE score for third-grade students attending schools that served over 75 percent free-lunch populations was 37.6, or the 28th percentile. In mathematics, the third-grade national average NCE score was 52.4 (52nd percentile). For students attending schools that served over 75 percent free-lunch populations, the mean NCE score was 36.6 (26th percentile).

Excluding the replication sites at the elementary level and those elementary sites that are aiming for less than full program implementation, the elementary schools in our study all served over 75 percent free-lunch communities. Not only did these elementary schools consistently perform above the levels found by Puma et al. to be average for very high-poverty communities, but they also consistently approached or exceeded national averages. For example, all grades at School J averaged above both local and national means. Similarly, School B's norm-referenced achievements were consistently averaging in the 50th to 70th percentile. School D produced achievements that exceeded local and state averages (the local achievement test is normed within the state, not the nation).

27. Normal Curve Equivalent scores (NCEs) are normalized standard scores matching the percentile distribution at values of 1, 50, and 99, with a standard deviation of 21.01 (Tallmadge & Wood, 1981).

Schools K and L presented similarly impressive academic pictures by the time students reached third grade, and each of these schools also obtained higher-than-district-average levels of student attendance.

It is not inevitable that students living in poverty fall forever further and further behind. The schools we studied presented clear evidence that there are successful working models of elementary school excellence in America today. Most models have been replicated several times, and where the replications are well-supported over several years, the results are dramatic and impressive.

Our study also provides data on the effects of less-than-strong implementation, and on the effects of a reasonably strong implementation of a program with not highly academically focused gains. School G was operating with very mixed evidence of implementation of the Paideia program, and was achieving outcomes consistent with the scores found by Puma et al., and far below those at several other elementary schools serving very high poverty communities in our study. Although School H had made advances in several important areas, such as regarded relationships among adults and between adults and children, the lack of clear academic focus may have led to test results that, while acceptable, were not nearly as stellar as those of some other schools we studied.

The elementary school data collected during our site visits seem clear. Choosing an academically focused program, creating a strong sense of community, and using the program and other resources to create a high-reliability organization consistently led to powerful academic outcomes for children placed at risk of educational failure. Puma et al.'s national averages for schools serving large numbers of students placed at risk are in no way ordained; they simply reflect current realities. *When placed in positive environments that support academic skills development, America's elementary grades children placed at risk achieve at and above national levels.*

The high school data from our study are more ambiguous in several regards. First, and most problematic, fewer people accept norm-referenced tests as a valid measure of a school's "effectiveness." Second, high schools do not control the first several years of schooling received by students, so that relatively low levels of achievement may be, in part, the result of prior, unsuccessful experiences. Third, by high school, students' peer groups begin to have very strong influences on students' actions. The United States has produced fewer models or designs for improving high schools, and those that have been forwarded have been slow to conduct carefully controlled studies of their effects. Studies focusing on high schools have tended to look for common themes within and across schools, such as indicators of school restructuring, rather than evidence of implementation of a "program" (see Newmann and Wehlage, 1995).

In our study, including replicate sites, we visited four "restructuring" high schools. These schools were engaged in efforts to provide greater attention to individual students needs by creating smaller learning communities within their campuses. All the schools had experienced difficulties along this journey, and none perhaps can be regarded as fully

"restructured." However, three of these schools clearly were achieving higher levels of student engagement and rates of student graduation than was the fourth. At this fourth school, the restructured "communities" were largely identifiable only by name; that is, whatever team teaching and integrated curricula had ever been achieved were no longer in evidence. Not surprisingly, many classes seemed poorly prepared and poorly taught, and the students in these classes were more often off task than on. Even at this high school, however, selected classrooms gave evidence that able, creative, and interested teachers were making a difference in students' learning. These teachers were not less demanding; in fact, they demanded more of their students than was observed in other classrooms precisely because they appeared to believe strongly that their students could do the work.

We also visited two high schools as part of our study that had previously received federal funding as demonstration programs under the School Dropout Demonstration Assistance Program (SDDAP), authorized under Title VI, Part A, of the Augustus F. Hawkins-Robert T. Stafford Elementary and Secondary School Improvement Amendments of 1988. One of these sites was an alternative high school serving students from surrounding districts deemed most in need of special services. The other site combined a school-within-a-school model with mentored, paid work experience for students at risk. These sites had participated in the national evaluation of the SDDAP from 1989 through 1992 and were found to have achieved lower student dropout rates (and to have kept students in school longer prior to their dropping out), higher grade averages, and lower rates of absenteeism than schools serving comparably at-risk populations in the area (see Rossi, forthcoming). In our study, both sites were found to be quite alive, well, and, apparently doing better than ever. Eight districts are now supporting the alternative school, which continues to feature a strong school-community orientation, and the school-within-a-school/work experience program remains a model for the district and its private sector constituencies.

In summary, data collected from the schools we studied suggest the following:

- There are programs in existence in America that, when well implemented, have the potential to substantially improve the achievements of students placed at risk. The students are utterly capable of learning much more than national surveys indicate is typical.
- It is possible for schools and programs serving at-risk students to sustain their exemplary status for at least a decade, and presumably longer.
- Implementation is a long-term process, not a readily achieved single step. Long-term, whole-school implementation requires building a community of like-minded, caring educators and a highly reliable set of organizational supports within the school, the school system, and among area residents (including business and civic organizations). These conditions appear to be in short supply in American education today, but the potential to build them clearly exists.

Assessment of the Resources Required to Implement Reforms

A variety of resources, mixed and matched in different ways, are necessary to implement the sorts of reforms for students at risk that we have reviewed and studied. These resources include monetary resources, but they are by no means restricted to dollars invested by school districts, communities, and private sources. While monetary resources surely affected the amounts of other resources that were available in our sites, people/personnel resources, material resources, and political resources played important roles in their own right.

Monetary Resources

Inside Dollars

At all the sites we studied, dollars routinely budgeted at the local level for school programs were directed in support of the particular reform activity; i.e., the reform was regarded as the school program. At School A, where the program had been created by the superintendents of several school districts, these participating districts each found the monies from within local budgets to establish and support the alternative school for high-risk teenagers. *At no site was the funding left up to outside sources entirely,* indicating that local, within-system support for these programs was evident at some level (i.e., at the school or district).

Outside Dollars

To varying degrees, all the sites also made use of funds from external sources, from foundation grants and special state funds to federal grants and community (cash) contributions. *The categorical nature of many public and private funding streams typically*

necessitated a creative, patchwork approach to building project budgets, which might have led to the pronounced fragmenting of programs in some cases were it not for the full-time commitments of budget developers and program planners. Title I and state compensatory education funds typically undergirded the elementary programs we visited, particularly those programs that had been allowed to become Title I schoolwide projects.

In some cases, external funds provided important "add-ons" to ongoing efforts. In the case of one school that had affiliated itself with a national reform program, for example, that program (by its and the school's admission) had been adopted in large part because it carried with it the funds for staff retreats; the site already was far advanced in applying the particular reform-oriented methods espoused by the national program. At other sites, however, external monies had been critical to the initiation of the reforms and were critical to their sustainability. Perhaps the most extreme case was School B that in seeking to implement a private school curriculum was supported to a large extent by a local foundation. In this case, general oversight authority as well as considerable influence over the day-to-day direction of the program came with these external funds. In addition, the foundation had its own agenda insofar as what the reform activities were to accomplish (see the later section on political resources).

People/Personnel Resources

Believing Principal

Many of the sites we visited had principal-advocates, who, if they had not created the particular reform programs, were actively championing the reforms in their current positions. At other sites, however, the principals were distracted in their active support roles by other concerns or by the fact that they had only recently been appointed to their positions. *In virtually every one of the sites, however, the building principal charged with general oversight of the school was a believer;* that is, he or she was willing to lend some support (or to take credit in some measure for the program's successes) because he or she believed it had improved the teaching-learning situation in some way. In the case of new principals, this belief may have come from the fact that the principal had formerly been a staff member participating in the reform at the school. In at least one or two cases, however, new principals were believers as a result of what they found upon arrival—considerable teacher investment and commitment and the notoriety the program was receiving from local and national entities.

Trained Teachers

Each site we visited that evidenced success with students benefited directly and importantly by staff persons trained in the particular school-program approach. In most cases, these teachers, counselors, or coordinators had received special training at the site or off-site while employed by the school and had, in turn, helped develop other staff at the

site (including new hires). In cases where the reform program had an established base, however, new hires were often recruited from among those already trained in the program. National networks of reform-trained teacher candidates were available in some cases, while in other cases schools had made efforts to hire staff from schools where the reform was already ongoing. At School B, the site implementing the private school curriculum, for example, new hires that had attended the private school themselves as students were especially sought after. In every case where the particular reform program was evident on the campus (i.e., there was no mistaking that the school program had been modified from the typical), teachers were not only enthusiastic program participants they were also trained in the necessary objectives and classroom strategies.

Paid Aides

Of the sites we visited, only selected ones had paid aides in the classrooms. *Where classroom aides were effective adjuncts to the instructional program, they, like teachers, had received training in the particular program being implemented.* In one case, the aides may have also provided an informal "relief" from the program; with the aides on the playground, for example, students could talk with one another and with the aides "the way we talk," rather than have to follow the strict grammatical rules and speaking styles incorporated into the program.

Parent/Adult Volunteers

Parent/grandparent/other adult relative volunteers in classrooms typically provided a source of support for teachers' efforts by demonstrating to students their own personal investments in the instructional process—they came to the classrooms and either carried out tasks prescribed by the teachers or sat quietly and observed the instructional process, apparently ready to lend a hand if needed. *The presence of these adult volunteers increased the stakes for students in being able to follow along with the instructional activities.*

Community Volunteers (including worksite mentors)

Community volunteers, e.g., YMCA staff on loan to provide connection to community programs, and worksite mentors were critical resources at the few sites that used them. *These individuals helped to supplement the instructional program in distinctive ways, by bringing to the students their special insights, talents, and personal networks.*

Staff Time

At more than a few of our sites, one characteristic of the teachers' days was time to plan together and to set shared goals for activities they might well teach together. In some cases, schedules had been rearranged to free up time for joint planning periods; in other cases, teachers and other involved staff volunteered an extra hour before or after school.

Teachers' decisions to invest off-hours in shared planning tasks typically were motivated by their excitement about the instructional program (and its projected or already-realized gains for students), their commitment to improving the school experiences for their students generally, or both of these factors.

Reform-Tested Advisors

For those school-based reforms that were implementing an established reform practice (e.g., Success for All, Coalition of Essential Schools, Core Knowledge), having experienced advisors available for periodic consultation was helpful. *Organized "refresher" seminars or informal conversations often were needed to help in solving problems or to bolster spirits at the school sites.*

New Teacher "Pipeline"

Affiliation with colleges or universities, whether formal or informal, provided selected schools with a pipeline of new, talented teachers who in many cases were well-versed in particular reform practices. For schools implementing national reform models, professional networks to colleges and universities featuring these models were also important. One of our sites that had built its own program for students at risk developed a working relationship with a state university such that student-teachers from the university were regularly assigned to the school. After providing an orientation, the principal and the other faculty at the school observed these student-teachers and made special efforts to hire the individuals who they felt came to understand and accept their schoolwide objectives and to share their commitment to an instructional approach that featured teaming relationships among staff members. At another of our sites, prospective teachers were invited to volunteer at the school or to supervise lunchtime activities there for pay to see whether they would be interested in joining the staff when a position became available. This sort of proactive orientation toward the recruitment of new staff characterized many of our most effective sites.

Material Resources

Reform-Related Instructional Materials

Whether the sites we studied were implementing national reform models or local approaches, the schools had the required instructional materials. Depending on the reform, this included books, supplementary reading materials, special lined paper, group project ideas, tests, manipulables, and so on.

(Other) Instructional Materials

Most of our schools had the typical array of instructional materials to be found in schools generally, from manipulables and textbooks to reasonably extensive libraries of reading materials, construction paper, and audio-visual tools. In fact, *the presence or absence of many of these resources did not, in our view, provide a reliable indication of the extent of student learning.* At one or two schools, for example, the many rows of new reading materials were impressive but so new as to suggest they had never been used with students. In contrast, at another site the principal and the teachers collected various mechanical and electrical equipment items on weekends from a plant closure in the area so that students could use these in vocational courses (and they were being used daily in classes). To be sure, we sat in classrooms that were very much under-equipped (e.g., chemistry classes without equipment), but in some of the classrooms with the requisite textbooks and materials, we found teachers misusing the resources at hand (e.g., having students copy pages from the textbook).

Computers and Other Instruction-Related Equipment

Computers were not much in evidence in most of the schools we visited, although in one or two cases they were playing an increasingly prominent role. *Typically, at both the elementary and secondary levels, computers were reserved for special classes and featured drill-and-practice softwares or were featured in efforts to teach work-related skills (e.g., word processing).*

Campus Facilities

Facilities at most of the schools we visited were typical for the regions in which they were located. In many cases, the buildings were old, and the surrounding play and recreation areas were in poor condition. *At a number of these sites, however, the efforts of the staff to revitalize the instructional program had included doing a considerable amount of work to create attractive and comfortable surroundings for students.* Thus, while the school building might be old, artwork was featured along all the corridors and changed periodically, and the exposed floors and walls literally shined. A garden project at one site was aimed at transforming a nearby hill that overlooked the school, and the work outside was coordinated with studies of biology in the classroom.

Political Resources

University Affiliation

In addition to the supplies of prospective new teachers noted above, affiliation with a college or university afforded some of our sites with additional monetary resources and

considerable credibility. In no small way, for example, university affiliation helped at one of our sites to lure community volunteers to the program. This sort of affiliation also helped fund-raising efforts; in some cases, university monetary contributions served as matching funds for other grants, and the affiliation itself was used to demonstrate the sort of vertical integration of educational systems that is often sought after by special federal and state programs.

Private-Sector Affiliation

Among our sites, several had some affiliation with companies or firms in the local area. These linkages brought volunteers to the campus, dollars to fund purchase of supplies and equipment, and places for students to learn job-related skills while receiving a minimum wage. One of our sites had entered into a partnership with a local foundation, which also provided dollars for staff and supplies, but brought with it as well considerable day-to-day oversight of the school by foundation representatives (as noted above). Each of these types of affiliations may have added to the credibility of the school-based programs; however, it was even more apparent that *these affiliations provided the schools with a degree of insulation from district-level policies, procedures, and requirements.* In short, relationships with employers and with local private funding agencies committed to particular reforms seemed to provide a buffer for schools from the effects of district political or budget-related mandates.

Implications for Policy and Practice

We found in all the sites we studied that the students being taught were capable of learning a great deal. We also found that these sites, generally, were able to promote learning, despite having to work, in some cases, with fewer resources in difficult-to-trying conditions. In our opinion, however, the actions of individual schools alone will not be sufficient to ensure that students placed at risk will receive a quality education. In addition to the needs for some comparability across schools in the levels of resources available to all students, many organizational factors common to all schools are in need of attention. The move across a city or state should not lead to immediate concerns about lack of educational opportunity. The move between states should not signal the need to re-evaluate students' skill levels and recommended educational placements. *There is, simply, no way to safeguard the educational futures of students—especially students who are placed at risk—without the assurance that, as a nation, we will maintain a coordinated, coherent, and consistent program of schooling for all.*

Set Clear and Agreed-Upon Goals and Objectives—at the National, State, and School Levels

Keeping students at risk from dropping out of school is an important goal, but with only a local sense of what these students are to master while in school, we may inadvertently be supporting an inequitable system of education. The filtering process by which educational objectives set at one administrative level are transferred to the next level permits considerable flexibility, which we may well cherish. At the same time, different interpretations of standards and how they should be applied to particular schools and students introduces sufficient "wiggle room" as to permit large numbers of students to be undereducated upon graduation.

Currently, much is being made about transferring responsibilities for education from the federal to the state levels. Notwithstanding that the majority of these responsibilities have long resided within the states, the call for a reduced federal role misses the point, particularly as far as students at risk are concerned. *How is the will of the nation regarding the educational progress and performance of all its youth to be motivated when there is no national voice?* To be sure, federal directives and mandates have often complicated local practices, federal programs have often not worked as they were designed to work when implemented in schools, and national priorities may have in the past been stated so generally as to appear directionless for everyday practice. It is no solution, however, to discontinue the effort to mobilize educational resources from the national perspective.

When the nation's governors met together with federal representatives to formulate education goals in 1989, a dialogue began that should be continued and broadened to include federal, state, and local bureaucrats and practitioners. This continuing dialogue should be wide-ranging but focused on developing consensual goals and objectives for educational practice. The timeline for reaching these objectives should be reasonable, but it must reflect the increasing urgency reflected by the numbers of young people who are being failed by our schools. We cannot any longer assume that someone else will serve the students we fail, since they will not, and the price of failure today is staggering. For these reasons, *the objectives we set together, involving all levels of the educational infrastructure, should be regarded as the basis for a contract with our students, and the outline of such an educational contract should emanate from the principle that no student will be allowed to fail;* as a nation, we must say and mean that we will not tolerate student failure.

Align Federal, State, and Local Educational Programs to Serve Students

Multiple and overlapping educational programs at various levels will continue to be important resources in zeroing out the educational failure rate, but they will need to be articulated more purposefully in the future if there is to be maximum return on all the investments that are made. Shared goals and objectives across curriculum areas and grades will help provide a framework for this articulation, but it is also important to consider ways of avoiding competing initiatives and increasing complementarity of efforts.

Federally funded demonstration programs and their evaluations, for example, should build upon ongoing state and local efforts where possible and aim to return information to local practitioners in forms they can readily use. In addition, statewide assessment initiatives, for example, should build more effectively on the national efforts being made to develop standardized profiles of student performance in various curriculum areas. Finally, district policies with respect to teacher recruitment, selection, and professional development, for example, should be designed to serve the special student-related needs of individual schools. *To the extent possible, research and evaluation efforts are needed that gauge, on*

Implications for Needed Research

Any attempt to address the issue of "needed research on educating students placed at risk" shares some aspects of the task of delineating "needed water in the Sahara." There is a great deal that needs doing, and very modest evidence of the political will to do it.

Research to date has paid several dividends. This study and others have clearly demonstrated that it is entirely possible for schools serving large numbers of students placed at risk to help bring those students to levels of education far above levels traditionally achieved by disadvantaged groups. The evidence is particularly strong in the area of elementary school education, where we now know enough about curricula, instructional practices, staff development and behavior, and school climate to bring the average achievement levels of disadvantaged first graders up to or above current national averages by the end of elementary school. Several schools visited as part of our study have in fact demonstrated that such a goal is reachable. We also know from previous research that such goals are more often reached by elementary than middle or high schools, but in the case of these higher levels as well, this study and selected previous evaluations have demonstrated specific practices and more or less coordinated strategies that work effectively to increase students' engagement, achievement, and expectations for continuing education. *What is needed now is a coherent and sustained program of applied research and evaluation studies of the conditions that foster or cripple valuable school-based reforms for students placed at risk.*

The problems facing poor children in our schools are immense and complex. Understanding these problems well enough to design reasonably cutting-edge research requires the long-term development of specialized skills on the parts of research teams. Low or sporadic levels of funding virtually guarantee that such understandings will never develop among communities of researchers. Creating national centers focused on the education of economically disadvantaged and multicultural/multilingual communities and expanding funding for unsolicited proposals related to students placed at risk represent

Foster the Development of Sense of Community Among Students and Staff

The encouragement of professional networks of teacher-colleagues is the first step to accomplishing an even larger and more urgent education-related goal: the building of a sense of community among the teachers, administrators, classified staff, and students on our campuses. As described earlier in this report, we refer to community as shared vision, values, and purpose; caring, trust, and teamwork; community, participation, respect, and recognition; and, perhaps most important, incorporation of diversity. When staff and students are able to relate to one another in these ways, we may have the greatest confidence that we can stop our students from failing to learn. Alternatively, *without a sense of community in our schools, the best efforts and practices of education reformers are likely to be wasted.* The sustainability of reform without community is difficult to imagine, let alone achieve.

Community of the sort described above enables learning, but it also constitutes an important subject matter for students in its own right. Schools that provide the experience of community to students, e.g., allow students to find a basis of shared values with others and engage in cooperative endeavors that make best use of individual talents and abilities, are helping them acquire the skills to form the sorts of meaningful connections to others that will enhance their productivity and satisfaction throughout their lives. For students at risk in particular, membership in healthy communities that respect diversity are the keys to survival and the means to lifelong learning.

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important initial steps toward creating a unified research program. Further steps in this direction, perhaps targeted at the $6,000,000,000 per year Title I program, must also be taken. Just as school-level reform almost certainly requires a reasonably stable foundation of support, the absence of sustained support for education research on students placed at risk will result in the loss of quality researchers to other areas.

The nation's school systems are spending billions of dollars implementing diverse and often untested reform strategies involving millions of young Americans. New "miracle cures," which promise positive results in weeks or years, abound. In this context, *a national 1 percent set-aside to systematically study "Which reforms succeed, where, when, and why?" and "Under what circumstances will no reform succeed?" would be a very prudent investment.* Certainly such a set-aside budget would represent an addition of some size to the nation's education research budget, but over the long haul will be much less expensive than the costs currently being borne by the thousands of schools attempting dubious school improvement efforts. Coordinated nationally, at the federal level, this research would inform practitioner efforts from North Carolina and New Hampshire to Washington and New Mexico.

Applied research of this sort can be meaningfully supported by systematic, third-party evaluations of diverse reform efforts. In this project, we visited one school attempting each of six reforms, and two schools attempting each of six additional reforms. The previous national evaluation of the School Dropout Demonstration Assistance Program (Rossi, in press) and the ongoing Special Strategies Studies (Stringfield et al., 1994 and in press) have gathered detailed, multiyear data on selected schools attempting more than 20 reform approaches, plus point-in-time data on as many as four replicates of each of these reform approaches. To determine the effectiveness of any of these reforms with more than modest precision would require efforts five-to-seven times the size of all three of these studies combined. In addition, several of the nation's most widely hailed school reform designs/programs have never been subjected to so much as one moderate scale, proactive, controlled, multiyear study. As citizens, we might well ask why the rigorous testing and standards used to ensure public safety in areas of medicine and automobile manufacturing, for example, are so noticeably absent from the implementation of new education reforms.

Finally, any serious research program seeking to improve education reforms for students at risk must reform current information dissemination approaches and practices. At present, the dissemination of research findings related to students placed at risk is chaotic. Much of the chaos is related to our current lack of standards as to what should be regarded as research, so that virtually every self-styled school or program-improvement scheme is marketed as "research based," regardless of how plausible the claim. Chaos and confusion also result from the fact that several of the more widely subscribed magazines in education seem committed to a "miracle of the month" strategy of educational improvement (a situation made worse by the absence until recently of refereed journals targeted at programs and persons serving students at risk). The National Diffusion Network (NDN), originally conceived as a channel of useful information for practice, has fallen short of its goals for three reasons: (1) NDN procedures for identifying model programs are

cumbersome and often poorly understood by practitioners; (2) the NDN has funded no independent research or evaluation activities related to validating the effectiveness of its "proven" programs; and (3) the NDN has provided such modest inducements for programs to participate that many of the better-regarded programs have simply declined to apply.

Clearly what is needed is a dissemination system that piggybacks upon a coordinated research program and works through established networks to reach teachers, administrators, and support staff. A good part of what must be disseminated is an appreciation of the grounds for claiming program effectiveness, so that the process of dissemination itself will lead to increased care about quality research standards. We must begin, in short, by educating our consumers; then we must do our best to meet their expectations.

References

Aday, L.A. & Andersen, R.M. (1984). The national profile of access to medical care: Where do we stand? *American Journal of Public Health*, 74, 1331-1339.

Alexander, W.M. & George, P.S. (1981).*The exemplary middle school*. New York: Holt, Rinehart and Winston.

Alperstein, G., Rappaport, C., & Flanigan, J.M. (1988). Health problems of homeless children in New York City. *American Journal of Public Health*, 78, 1232-1233.

Alva, S.A. & Padilla, A.M. (1989). *A contextual interaction model of academic invulnerability among Mexican-American students*. Stanford, CA: Center for Educational Research at Stanford.

Alvarez, R., Jr. (1986). The Lemon Grove incident: The nation's first successful desegregation court case. *Journal of San Diego History*, 32, 116-135.

Alvarez-Pease, L. & Kenji, H. (1992). Enriching our views of bilingualism and bilingual education. *Educational Researcher*, 21(2), 4-6.

American Association for the Advancement of Science. (1989). *Science for all Americans: A Project 2061 report on literacy goals in science, mathematics, and technology*. Washington, DC: Author.

American Association of University Women Educational Foundation. (1992). *How schools shortchange girls*. Washington, DC: National Education Association Professional Library.

American Educator. (1991). A multicultural curriculum worthy of our multicultural society. *American Educator*, Winter, 12-13.

Ames, R.E. & Ames, C. (1984, 1985, 1989). *Research on motivation in education*, Vols. 1,2,3. Orlando, FL: Academic Press.

Anderson, B.T., Pruitt, H., & Courtney, R. (1989). *Science interests of urban seventh graders*. Paper presented at the meeting of the Eastern Educational Research Association, Savannah, GA.

Anderson, J.D. (1988). *The education of blacks in the South*. Chapel Hill: University of North Carolina Press.

Anderson, J.I. (1992). *The distribution of Chapter 1 services: Which school districts and schools serve students in Chapter 1?* Washington, DC: U.S. Department of Education, Office of Educational Research and Improvement, Office of Research.

Apple, M.W. (1990). *What reform talk does: Creating new inequalities in education*. In S.B. Bacharach (Ed.), Education reform: Making sense of it (pp. 155-164). Needham Heights, MA: Allyn and Bacon.

Arhar, J.M. (1992). *Interdisciplinary teaming and the social bonding of middle level students*. In J.L. Irvin (Ed.), Transforming middle level education (pp. 139-160). Boston: Allyn and Bacon.

Arias, M.B. (1986). The context of education for Hispanic students: An overview. *American Journal of Education*, *95*(1), 26-57.

Asante, M.K. (1991-1992). Afrocentric curriculum. *Educational Leadership*, *49*(4), 28-31.

Ascher, C. (1991). *School programs for African American students*. New York: ERIC Clearinghouse on Education, Columbia University, Teachers College.

Association for Supervision and Curriculum Development. (1990). Bridging the school-work gap. *Update*, 32 (October), 1 and 4-5. Author.

Atlanta Project. (1992). *The Atlanta Project*. Atlanta, GA: Author.

Auletta, K. (1982). *The underclass*. New York: Vintage Books.

Banks, J.A. (1991-1992). Multicultural education: For freedom's sake. *Educational Leadership*. *49*(4), 32-36.

Baratz, S.S., & Baratz, J.C. (1970). Early childhood intervention: The social science basis of institutional racism. *Harvard Educational Review, 40*, 29-50.

Barker, R. & Gump, P. (1964). *Big school, small school: High school size and student behavior*. Stanford, CA: Stanford University Press.

Bauchner, H. (1989). Effects of maternal marijuana and cocaine use on fetal growth. *New England Journal of Medicine, 320*, 762-768.

Beady, C. & Slavin, R.E. (1980). Making success available to all students in desegregated schools. *Integrated Education, 18*(5, 6), 28-31.

Beady, C., Slavin, R.E. & Fennessey, G. (1981). Alternative student evaluation structures and a focused schedule of instruction in an inner-city junior high school. *Journal of Educational Psychology, 73*, 518-523.

Bean, J.P. & Metzner, B.S. (1985). A conceptual model of nontraditional undergraduate student attrition. *Review of Educational Research, 55*, 485-540.

Becker, A. (1991). Responsibilities and expectations: Interactive home/school factors in literacy development among Portuguese first graders. *In Literacy as praxis: Culture, language, and pedagogy* (pp. 68-83). Norwood, NJ: Ablex.

Becker, H.J. (1986, August). *Instructional uses of school computers: Reports from the 1985 national survey*. Johns Hopkins University, Center for the Social Organization of Schools, No. 2.

Becker, H.J. (1987). *The impact of computer use on children's learning: What research has shown and what it has not*. (Report No. 18) Baltimore, MD: Johns Hopkins University, Center for Research on Elementary and Middle Schools.

Bell, T.H. & Elmquist, D.L. (1992, February). Technology: A catalyst for restructuring schools. *Electronic Learning, 11*(5), 10-11.

Belle, D. (1982). *Lives in stress: Women and depression*. Beverly Hills: Sage.

Benson, P.L. (1990). *The troubled journey: A portrait of 6th-12th grade youth*. Minneapolis, MN: Lutheran Brotherhood.

Berghout Austin, A.M. & Draper, D.C. (1984). The relationship among peer acceptance, social impact, and academic achievement in middle childhood. *American Educational Research Journal, 21*, 597-604.

Berlin, G. & Sum, A. (1988). *Toward a more perfect union: Basic skills, poor families, and our economic future*. New York: Ford Foundation.

Berruetta-Clement, J.R., Schweinhart, L.J., Barnett, W.S., Epstein, A.S., & Weikart, D.P. (1984). *Changed lives: The effects of the Perry Preschool on youths through age 19*. Ypsilanti, MI: High/Scope Press.

Berry, B. (1972). The histories of American Indian education. In J. Henry (Ed.), *The American Indian Reader: Education* (pp. 29-37). San Francisco, CA: Indian Historian Press.

Betsey, C., Robinson H., Jr., & Papageorgiou, M. (Eds.). (1985). *Youth employment and training programs, the YEDPA years*. Washington, DC: National Academy Press.

Bidwell, C.E. (1987). Moral education and school organization. In Hallinan, M.T. (Ed.), *The social organization of schools*. New York: Plenum.

Biklen, D. (1988). The myth of clinical judgment. *Journal of Social Issues, 44*, 127-140.

Biklen, D. (1989). Redefining schools. In D. Biklen, D. Ferguson, & A. Ford (Eds.), *Schooling and disability* (pp. 1-24). Chicago, IL: University of Chicago Press.

Biller, H.B. (1971). *Father, child, and sex role*. Lexington, MA: Heath.

Biniaminov, I. & Glasman, N.S. (1983). School determinants of student achievement in secondary education. *American Educational Research Journal, 20*, 251-268.

Birch, H.G. & Gussow, J.D. (1970). *Disadvantaged children: Health, nutrition & school failure*. New York: Harcourt, Brace & World.

Bishop, J. (1987). *Information externalities and the social payoff to academic achievement*. Ithaca, NY: Cornell University, Center for Advanced Human Resources Studies.

Bishop, J.H. (1989). Why the apathy in American high schools? *Educational Researcher, 18*, 6-10, 42.

Blumenfeld, P.C. et al. (1991). Motivating project-based learning: Sustaining the doing, supporting the learning. *Educational Psychologist, 26*(3, 4), 369-398.

Bottoms, G. & Presson, A. (1989). *Improving general and vocational education in the high schools*. Atlanta, GA: Southern Regional Education Board.

Boudon, R. (1973). *Education, opportunity, and social inequality*. New York: Wiley & Sons.

Bowles, S.S. & Gintis, H.M. (1976). *Schooling in capitalist America*. New York: Basic Books.

Boykin, A.W. (1994). Reformulating educational reform: Toward the proactive schooling of African American children. In R.J. Rossi (Ed.), *Educational reforms and students at risk*. New York: Teachers College Press.

Braddock, J.H. (1990). *Tracking: Implications for student race-ethnic subgroups*. Baltimore, MD: Johns Hopkins University, Center for Research on the Effective Schooling of Disadvantaged Students.

Braddock, J.H. & McPartland, J.M. (1987). How minorities continue to be excluded from equal employment opportunities: Research on labor market and institutional barriers. *Journal of Social Issues, 43*(1), 5-39.

Braddock, J.H. & McPartland, J.M. (1990). *Alternatives to tracking*. Baltimore, MD: Johns Hopkins University, Center for Research on the Effective Schooling of Disadvantaged Students.

Branch, A.Y., Milliner, J., & Bumbaugh, J. (1986). *Summer training and education program (STEP): Report on the 1985 summer experience*. Philadelphia, PA: Public/Private Ventures.

Brantlinger, E.A. (1985). Low income parents' opinions about the social class composition of schools. *American Journal of Education, 93*, 389-408.

Braun, L. (1990). *Vision: Test (Technology enriched schools of tomorrow)*. Eugene, OR: University of Oregon, International Society for Technology in Education.

Braveman, P., Oliva, G., Miller, M.G., Reiter, R., & Egerter, S. (1989). Adverse outcomes and lack of health insurance among newborns in an eight-county area of California, 1982-1986. *New England Journal of Medicine, 321*, 508-513.

Bridges, E. (1986). *The incompetent teacher*. Philadelphia: Falmer.

Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Cambridge, MA: Harvard University Press.

Bronfenbrenner, U. (1989, September/December). *Who cares for children?* Invited address, UNESCO, Paris. (ED-90/WS-2).

Brooks-Gunn, J. & Furstenburg, F. (1986). The children of adolescent mothers: Physical, academic, and psychological outcomes. *Developmental Review, 6*, 224.

Brophy, J. (1986). Research linking teacher behavior to student achievement: Potential implications for instruction of Chapter 1 students. In B. Williams, P. Richmond, & B. Mason (Eds.), *Designs for compensatory education: Conference proceedings and papers*. Washington, DC: Research and Evaluation Associates.

Brophy, J. (1987). *Motivation in the classroom*. East Lansing, MI: Michigan State University, Institute for Research on Teaching.

Brophy, J. (1988). Research on teacher effects: Uses and abuses. *Elementary School Journal, 89*(1), 3-22.

Bryk, A. & Driscoll, M.W. (1988). *The high school as community: Contextual influences and consequences for students and teachers*. Madison, WI: University of Wisconsin-Madison, National Center on Effective Secondary Schools.

Bryk, A.S., Fee, V.E. & Smith, J.B. (1990). High school organization and its effects on teachers and students: An interpretive summary of the research. In W.H. Clune & J.F. Witte (Eds.), *Choice and control in American education, Vol. 1* (pp. 135-226). New York: Falmer Press.

Bryk, A.S. & Thum, Y.M. (1989). The effects of high school organization on dropping out: An exploratory investigation. *American Educational Research Journal, 26*, 353-383.

Buriel, R. & Cardoza, D. (1988). Sociocultural correlates of achievement among three generations of Mexican American high school seniors. *American Educational Research Journal, 25*, 177-192.

Burkheimer, G.J., Riccobono, J.A., & Wisenbaker, J.M. (1979). *Evaluation study of the Upward Bound Program: A second follow-up* (Final report on Contract No. HEW-300-78-0037 to the U.S. Office of Education). Research Triangle Park, NC: Research Triangle Institute.

Butler, A.S. (Ed.). (1987). *Black girls and schooling: A directory of strategies and programs for furthering the academic performance and persistence rates of black females K-12*. Manhattan, KS: Kansas State University.

Campbell, F.A. & Ramey, C.T. (1989, April). *Preschool vs. school-age intervention for children: Where should we put our efforts?* Paper presented at the biennial meeting of the Society for Research in Child Development, Kansas City, MO.

Capper, C.A. (1990). Students with low-incidence disabilities in disadvantaged, rural settings. *Exceptional Children, 56*(4), 338-344.

Capper, C.A. (1990, April). *Exploring community influences on leadership and reform: A micro-level and macro-level analysis of poverty and culture*. Paper presented at the annual meeting of the American Educational Research Association, Boston, MA.

Carmichael, S. & Hamilton, C.V. (1967). *Black power: The politics of liberation in America*. New York: Vintage Books.

Carter, J.H (1983). Vision or sight: Health concerns for Afro-American children. In G. Powell, J. Yamamoto, A. Romero, & A. Morales (Eds.), *The psychosocial development of minority group children*. New York: Brunner/Mazel.

Carter, L. (1984, August/September).The sustaining effects study of compensatory and elementary education. *Educational Researcher, 13*, 5-13.

Carter, T.P. & Chatfield, M.L. (1986). Effective bilingual schools: Implications for policy and practice. *American Journal of Education, 95*, 200-232.

Carter, T.P. & Segura, R.D. (1979). *Mexican Americans in school: A decade of change*. New York: College Entrance Examination Board.

Center on Families, Schools, Communities, and Children's Learning (1990). Proposal to the Office of Educational Research and Improvement. A consortium of Boston University Institute for Responsive Education, Johns Hopkins University, University of Illinois, Wheelock College, and Yale University. Baltimore, MD: Author.

Centers for Disease Control. (1985). Drug-resistant tuberculosis among the homeless-Boston *Morbidity and Mortality Weekly Report, 35*(July 19), 429-431.

Chapin, S.L. & Vito, R. (1988). *Patterns of family interaction style, self-system processes and engagement with schoolwork: An investigation of adolescents rated as at-risk or not-at-risk for academic failure*. Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA.

Charner, I. (1988). Employability credentials: A key to successful youth transition to work. *Journal of Career Development, 15*, 30-40.

Chasnoff, IJ. (1991). Drugs, alcohol, pregnancy, and the neonate: Pay now or pay later. *Journa of the American Medical Association, 266*, 1567-1568.

Chasnoff, IJ., Burns, W.J., Schnoll, S.H., & Burns, K.A. (1985). Cocaine use in pregnancy. *New England Journal of Medicine, 313*, 666-669.

Chasnoff, IJ., Landress, H.J., & Barrett, M.E. (1990). The prevalence of illicit-drug or alcoholuse during pregnancy and discrepancies in mandatory reporting in Pinellas County Florida. *New England Journal of Medicine, 322*, 1202-1206.

Chavkin, W., Kristal, A., Seabron, C., & Guigli, P.E. (1987). The reproductive experience of women living in hotels for the homeless in New York City. *New York State Journal of Medcine, 87*, 10-13.

Chenoweth, T. (1992, April). *The role of the principal in emerging models of schooling for at-risk students*. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, CA.

Chester, N.L. (1983). Sex differentiation in two high school environments: Implications for career development among black adolescent females. *Journal of Social Issues, 39*(3), 29-40.

Children's Defense Fund. (1986). *A children's defense budget*. Washington DC: Author.

Christensen, C.M. (1992). Multicultural competencies in early intervention: Training professionals for a pluralistic society. *Infants and Young Children, 4*(3), 49-63.

Civic Achievement Award Program. (1989). *A civic knowledge and skills development program*. Arlington, VA: Author.

Clark, R.L. (1992). *Neighborhood effects on dropping out of school among teenage boys*. Washington, DC: Urban Institute.

Clark, R.M. (1983). *Family life and school achievement: Why poor black children succeed or fail*. Chicago, IL: University of Chicago Press.

Clayton, C. (1991, Winter). Chapter 1 evaluation: Progress, problems, and possibilities. *Evaluation and Policy Analysis, 13*, 345-352.

Coalition for Essential Schools (1985). *Common principles*. Providence, RI: Author (Brown University).

Coburn, J. & Nelson, S. (1987). *Characteristics of successful Indian students: Research and development program for Indian education*. Portland, OR: Northwest Regional Educational Laboratory.

Cohen, D.L. (1989, March 15). New Jersey project: Help close at hand. *Education Week*, pp. 9, 12.

Cohen, D.L. (1991, January 23). San Diego agencies join to ensure "New Beginning" for families. *Education Week*, pp. 1, 16-19.

Cohen, E.G. (1984). Talking and working together: Status, interaction and learning. In P. Peterson, L.C. Wilkinson, & M. Hallinan (Eds.), *The social context of instruction*. New York: Academic Press.

Cohen, E.G. (1986). *Designing groupwork: Strategies for the heterogeneous classroom*. New York: Teachers College Press.

Cohen, P.A., Kulik, J.A., & Kulik, C. (1982). Educational outcomes of tutoring: A meta-analysis of findings. *American Educational Research Journal, 19*, 237-248.

Coleman, J.S. (1961). *The adolescent society*. Glencoe, IL: Free Press.

Coleman, J.S. (1987). Families and schools. *Educational Researcher, 16*, 32-38.

Coleman, J.S. (1988). Social capital in the creation of human capital. *American Journal of Sociology, 94*, (Supplement), S95-S120.

Coleman, J.S., et al. (1974). *Youth: Transition to adulthood*. Chicago: University of Chicago Press.

Coleman, J.S. & Husen, T. (1985). *Becoming adult in a changing society*. Paris: Organization for Economic Cooperation and Development.

Coleman, J., Campbell, E., Hobson, C., McPartland, J., Mood, A., Weinfield, F., & York, R. (1966). *Equality of educational opportunity*. Washington, DC: U.S. Government Printing Office.

Comer, J.P. (1988). Educating poor minority children. *Scientific American, 259*(5), 42-48.

Comer, J.P. (1992). Opening the door to learning. *Agenda* (Winter), 426-28.

Commins, N.L. & Miramontes, O.B. (1989). Perceived and actual linguistic competence: A descriptive study of four low-achieving Hispanic bilingual students. *American Educational Research Journal, 26*, 443-472.

Connor, M.E. (1988). Teenage fatherhood: Issues confronting young black males. In J.T. Gibbs (Ed.), *Young, black, and male in America: An endangered species* (pp. 188-218). Dover, MA: Auburn House.

Connors, N.A. (1992). Teacher advisory: The fourth R. In J.L. Irvin (Ed.), *Transforming Middle Level Education* (pp. 162-178). Boston: Allyn and Bacon.

Cooper, K.J. (1990, December 5). *Three R's and role models in Baltimore third grade*. Washington Post.

Core Knowledge Foundation (1995). *Core Knowledge Sequence*. Charlottesville, VA: Core Knowledge Foundation.

Crain, R. (1984). *The quality of American high school graduates: What personnel offices say and do about it* (Report no. 354). Baltimore: Center for Social Organization of Schools, Johns Hopkins University.

Cuban, L. (1993) *How teachers taught* (2nd ed.) New York: Teachers College.

Cziko, G.A. (1992). The evaluation of bilingual education. *Educational Researcher, 21*(2): 7-15.

Daniels, D.K. (1983). *Project together: Second interim report*. Johns Hopkins University, School Action Effectiveness Study.

Darling-Hammond, L. (1985). *Equality and excellence: The educational status of black Americans*. New York: College Entrance Examination Board.

David, J.L. (1990). Restructuring and technology: Partners in change. In K. Sheingold and M.S. Tucker (Eds.), *Restructuring for learning with technology* (pp. 75-89). New York: Center for Technology in Education, Bank Street College of Education and National Center on Education and the Economy.

Davidson, L. & Linnoila, M. (Eds.). (1989). *Report of the secretary's task force on youth suicide. Volume 2: Risk factors for youth suicide* (pp. 2-131 to 2-142). Washington, DC: U.S. Government Printing Office.

de Baca, M., Rinaldi, C., Billig, S., & Kinnison, B. (1991). Santo Domingo school: A rural schoolwide project success. *Educational Evaluation and Policy Analysis, 13*, 363-368.

DeFord, D.E., Pinnell, G.S., Lyons, C.A., & Young, P. (1987). *Ohio's reading recovery program. Volume VII: Report of the follow-up studies*. Columbus, OH: Ohio State University.

Delain, M.T., Pearson, P.D., & Anderson, R.C. (1985). Reading comprehension and creativity in black language use: You stand to gain by playing the sounding game! *Review of Educational Research, 22*, 155-173.

Dembo, R. (1988). Delinquency among black male youth. In J.T. Gibbs (Ed.), *Young, black, and male in America: An endangered species* (pp. 129-165). Dover, MA: Auburn House.

Demeis, D.K. & Turner, R.R. (1978). Effects of students' race, physical attractiveness, and dialect on teachers' evaluations. *Contemporary Educational Psychology, 3*(1), 77-86.

Deshler, D.D., Schumaker, J.B., Alley, G.R., Warner, M.M. & Clark, F.L. (1982). Learning disabilities in adolescent and young adult populations: Research implications. *Focus on Exceptional Children, 15*, 1-12.

Deutsch, M. et al. (1967). *The disadvantaged child*. New York: Basic Books.

Dewey, J. (1916). *Democracy and education*. New York: Macmillan.

DeYoung, A.J. (1987). The status of American rural education research: An integrated review and commentary. *Review of Educational Research, 57*, 123-148.

DeYoung, A.J. (1989). The disappearance of "social capital" in rural America: Are all rural children "at risk?" *Rural Special Education Quarterly, 10*(1), 38-45.

DeYoung, A.J. (1994). At-risk children and the reform of rural schools: Economic and cultural dimensions. In R.J. Rossi (Ed.), *Educational reforms and students at risk*. New York: Teachers College Press.

Dielman, T.E., Shope, J.T., & Butchart, A.T. (1990). *Peer, family, and intrapersonal predictors of adolescent alcohol use and misuse*. Paper presented at the meeting of the Society for Research on Adolescence, Atlanta, GA.

Dillon, D.R. (1989). Showing them that I want them to learn and that I care about who they are: A microethnography of the social organization of a secondary low-track English- reading classroom. *American Educational Research Journal, 26*, 227-259.

Diprete, T.A. (1982) *Discipline and order in American high schools*. Washington, DC: U.S Government Printing Office.

Dolan, L.J. (1992). *Models for integrating human services into the school*. Baltimore, MD: Johns Hopkins University, Center for Research on Effective Schooling for Disadvantaged Students, Report No. 30.

Dryfoos, J.G. (1990). *Adolescents at-risk: Prevalence and prevention*. New York: Oxford University Press.

Dryfoos, J.G. (1991). School-based social and health services for at-risk students. *Urban Education, 26*, 118-137.

DuBois, W.E.B. (1935). Does the Negro need separate schools? *Journal of Negro Education, 4*(July), 328-335.

Dugger, C.W. (1992a, September 8). *Troubled children overwhelm care system*. New York Times, pp. A1, A17.

Dugger, C.W. (1992b, September 9). *Fatal beating points up a system in crisis*. New York Times, pp. A1, C19.

Dunst, C.J., et al. (1986). Mediating influences of social support: Personal, family, and child outcomes. *American Journal of Mental Deficiency, 90*, 403-417.

Epstein, J.L. (1992). *School and Family Partnerships*. Encyclopedia of Educational Research, 6th Edition. (pp. 1139-1151). New York: Macmillan.

Gage, N. (1963). *Handbook of research on teaching*. Chicago: Rand McNally.

Galbraith, J. (1992). *The culture of contentment*. Boston: Houghton Mifflin.

Gambetta, D. (1987). *Were they pushed or did they jump?* Great Britain: Cambridge University Press.

Gamoran, A. (1987). The stratification of high school learning opportunities. *Sociology of Education, 60*, 135-155.

Gamoran, A. & Berends, M. (1987). The effects of stratification in secondary schools: Synthesis of survey and ethnographic research. *Review of Educational Research, 57*, 415-435.

Garbarino, J. (1978). The human ecology of school crime: A case for small schools. In E. Wenk and N. Harlow (Eds.), *School Crime and Disruption: Prevention Models* (pp. 123-133). Washington, DC: National Institute of Education.

Garbarino, J. (1980). Some thoughts on school size and its effects on adolescent development. *Journal of Youth and Adolescence, 9*(1), 19-31.

Gardner, H. (1983). *Frames of mind: The theory of multiple intelligences*. New York: Basic Books, Inc.

Gardner, J. (1992). *Building community*. Washington, DC: Independent Sector.

Gastil, R.D. (1972). The relationship of regional cultures to educational performance. *Sociology of Education, 45*, 408-425.

Gelinas, D.J. (1983). The persisting negative effects of incest. *Psychiatry, 46*(312-332).

General Accounting Office (1989). *Effective schools programs: Their extent and characteristics*. Gaithersburg, MD: U.S. General Accounting Office.

Gentile, C. (1992). *Exploring new methods for collecting students' school-based writing: NAEP's 1990 portfolio study*. Washington, DC: National Center for Education Statistics, U.S. Department of Education.

Ghodsian, M., Zajicek, E., & Wolkind, S. (1984).A longitudinal study of maternal depression of and child behavior problems. *Journal Child Psychology and Psychiatry, 25*, 91-109.

Gibbs, J.T. (Ed.). (1988). Health and mental health of young black males. In J.T. Gibbs (Ed.), *Young, black, and male in America: An endangered species* (pp. 219-257). Dover, MA: Auburn House.

Gibbs, J.T. (1989). Black adolescents and youth: An update on an endangered species. In R.L. Jones (Ed.), *Black Adolescents* (pp. 3-28). Berkeley, CA: Cobb and Henry.

Gibbs, J.T. & Huang, L.N. (1990). A conceptual framework for assessing and treating minority youth. In J.T. Gibbs, L.N. Huang et al., *Children of Color: Psychological Interventions with Minority Youth* (pp. 1-29). San Francisco, CA: Jossey-Bass.

Goldenberg, C.N. (1989). Parents' effects on academic grouping for reading: Three case studies. *American Educational Research Journal, 26*, 329-352.

Goldstein, A.P. (1989). Teaching alternatives to aggression. In D. Biklen, D. Ferguson, & A. Ford (Eds.), *Schooling and disability* (pp. 168-194). Chicago, IL: University of Chicago Press.

Good, T. & Brophy, J. (1986). School effects. In M. Wittrock (Ed.), *Handbook of Research on Teaching* (3rd ed.). New York: MacMillan.

Goodlad, J.I. (1984). *A place called school*. New York: McGraw-Hill.

Gordon, E.W. & Yowell, C. (1994). Educational reforms for students at risk: Cultural dissonance as a risk factor in the development of students. In R.J. Rossi (Ed.), *Educational reforms and students at risk*. New York: Teachers College Press.

Gottfredson, D.C. (1987). Examining the potential of delinquency prevention through alternative education. *Today's Delinquent, 6*, 87-100.

Gottfredson, G.D. (1987). American education: American delinquency. *Today's Delinquent, 6*, 5-70.

Gottfredson, G.D. (1988). *Business community/school partnerships*. Baltimore, MD: Johns Hopkins University, Center for Research on Elementary and Middle Schools.

Gottfredson, G.D. & Gottfredson, D.C. (1985). *Victimization in six hundred schools: An analysis of the roots of disorder*. New York: Plenum.

Gottfredson, G.D., Nettles, S.M., & McHugh, B. (1992). *Meeting the challenges of multicultural education: A report from the evaluation of Pittsburgh's Prospect Multicultural Education Center*. Baltimore, MD: Johns Hopkins University, Center for Research on Effective Schooling for Disadvantaged Students, Report No. 27.

Grannis, J. (1991, October). Dropout prevention in New York City: A second chance. *Phi Delta Kappan*, 143-149.

Grannis, J., Riehl, C., Pallas, A.M., Lerer, N., Randolph, S., & Jewell, K. (1988). *Evaluation of the New York City dropout prevention initiative: Final report on the high schools for year two, 1986-87*. New York: Institute for Urban and Minority Education, Columbia University, Teachers College.

Grant Foundation Commission on Work, Family, and Citizenship (1988). *The forgotten half: Pathways to success for America's youth and young families*. Washington, DC: William T. Grant Foundation.

Green, A.H. (1978). Self-destructive behavior in battered children. *American Journal of Psychiatry, 135*, 579-582.

Green, B.L. & Schneider, M.J. (1990). Threats to funding for rural schools. *Journal of Education Finance, 15*, 302-318.

Greenbaum, P.E. (1985). Nonverbal differences in communication style between American Indian and Anglo elementary classrooms. *American Educational Research Journal, 22*, 101-115.

Griffith, J., Frase, M.J., & Ralph, J.H. (1989, December). American education: The challenge of change. *Population bulletin, 44*(4). Washington, DC: Population Reference Bureau, Inc.

Grissom, J.G. & Shepard, L.A. (1989). Repeating and dropping out of school. In Shepard, L.A. and Smith, M.L. (Eds.), *Flunking grades: Research and policies on retention* (pp. 34-63). Philadelphia, PA: Falmer.

Griswold, P., Cotton, K., & Hansen, J. (1985). *Effective compensatory education sourcebook*, Vol. I. Washington, DC: U.S. Department of Education.

Grubb, W.N., Davis, G., & Lum, J. (1991). *The cunning hand, the cultural mind*. University of California, Berkeley: National Center for Research in Vocational Education.

Guitierrez, K.D. (1992). A comparison of instructional contexts in writing process classrooms with Latino children. *Education and Urban Society, 24*, 244-262.

Guttman, J., Geva, N., & Gefen, S. (1988). Teachers' and school children's stereotypic perception of "the child of divorce." *American Educational Research Journal, 25*, 555-571.

Hack, M., Breslau, N., Weissman, B., Aram, D., Klein, N., & Borawski, E. (1991). Effect of very low birth weight and subnormal head size on cognitive abilities at school age. *New England Journal of Medicine, 325*, 231-237.

Hahn, A. & Danzberger, J. (1987). *Dropouts in America: Enough is known for action*. Washington, DC: Institute for Educational Leadership.

Hahn, H. (1988). The politics of physical differences: Disability and discrimination. *Journal of Social Issues, 44*(1), 39-47.

Hakuta, K. & Pease-Alvarez, L. (Eds.). (1992). Special issue on bilingual education. *Educational Researcher, 21*(2).

Hallinan, M.T. & Sorensen, A.B. (1985). Ability grouping and student friendships. *American Educational Research Journal, 22*, 485-499.

Hallinger, P. & Murphy, J.F. (1986).The social context of effective schools. American *Journal of Education, 94*, 328-355.

Halpern, R. (1991). *The role of after-school programs in the lives of inner-city children: A study of the Urban Youth Network after-school programs*. Chicago, IL: Chapin Hall Center for Children, University of Chicago.

Hamilton, S.F. (1990). *Apprenticeship for adulthood: Preparing youth for the future*. New York: Free Press.

Hampton, R.L. & Newberger, E.H. (1985). Child abuse incidence and reporting by hospitals: Significance of severity, class, and race. *American Journal of Public Health, 75*(1), 56-59.

Hanson, S.L., & Ginsburg, A.L. (1988). Gaining ground: Values and high school success. *American Educational Research Journal, 25*, 334-365.

Hanushek, E.A. (1990, March). The impact of differential expenditures on school performance. *Issue Analysis*, 1-22.

Harkins, C., Linney, J.A., & Forman, S.G. (1989). *The ecology of substance use: Family characteristics of high-risk teens*. Paper presented at the meeting of the American Psychological Association, New Orleans, LA.

Harry, J. (1989). Sexual identity issues. In L. Davidson & M. Linnoila (Eds.), *Report of the secretary's task force on youth suicide. Volume 2: Risk factors for youth suicide* (pp. 2-131 to 2-142). Washington, DC: U.S. Government Printing Office.

Hawkins, J.D., Doueck, H.J., & Lishner, D.M. (1988). Changing teaching practices in mainstream classrooms to improve bonding and behavior of low achievers. *American Educational Research Journal, 25*(1), 31-50.

Heath, S.B. & McLaughlin, M.W. (1989). Policies for children with multiple needs. In M.W. Kirst (Ed.), *Conditions of children in California*. Berkeley, CA: Policy Analysis for California Education.

Heffernan, W.D. & Heffernan, J.B. (1986). *The farm crisis and the rural community. New dimensions in rural policy: Building upon our heritage, studies prepared for the U.S. Congress Joint Economic Committee, Subcommittee on Agriculture and Transportation*. Washington, DC: U.S Government Printing Office.

Heid, C. (1991). The dilemma of Chapter 1 program improvement. *Educational Evaluation and Policy Analysis, 13*, 394-398.

Helfer, R.E. (1987). The developmental basis of child abuse and neglect: An epidemiological approach. In R.E. Helfer & R.S. Kempe (Eds.), *The battered child* (pp. 60-80). Chicago: University of Chicago Press.

Helfer, R.E. & Kempe, R.S. (1987). *The battered child*. Chicago: University of Chicago Press.

Hess, G.A., Jr. (1994). Chicago school reform: A response to unmet needs of "at risk" students. In R.J. Rossi (Ed.), *Educational reforms and students at risk*. New York: Teachers College Press.

Hetherington, E.M., Featherman, D.L., & Camara, K.A. (1981). *Intellectual functioning and achievement of children in one-parent households*. Paper prepared for the National Institute of Education, Washington, DC.

Hidi, S. (1990). Interest and its contribution as a mental resource for learning. *Review of Educational Research, 60*(4), 549-571.

Hill, P.T., Foster, G.E., & Gendler, T. (1990). *High schools with character*. Santa Monica, CA: RAND.

Hilliard, A. (1991, September). Do we have the will to educate all children? *Educational Leadership*, pp. 31-36.

Hilliard, A.G., III. (1991-1992). Why we must pluralize the curriculum. *Educational Leadership, 49*(4), 12-14.

Hingson, R. et al. (1982). Effects of maternal drinking and marijuana use on fetal growth and development. *Pediatrics, 70*, 539-546.

Hirschhorn, E. (1976). Federal legal remedies for racial discrimination. In P. Katz (Ed.), *Toward the elimination of racism* (pp. 377-440). New York: Pergamon Press.

Hodgkinson, H. (1985). *All one system: Demographics of education kindergarten through graduate school*. Washington, DC: Institute for Educational Leadership.

Holland, A. & Andre, T. (1987). Participation in extracurricular activities in secondary school: What is known, what needs to be known? *Review of Educational Research, 57*, 437-466.

Holland, S.H. (1987, March 25). A radical approach to educating young black males. *Education Week*.

Holmes, C.T. (1989). Grade level retention effects: A meta-analysis of research studies. In Shepard, L.A. & Smith, M.L. (Eds.), *Flunking grades: Research and policies on retention*, pp. 16-33. Philadelphia, PA: Falmer.

Hoo, S.S. (1990). School renewal: Taking responsibility for providing an education of value. In J.I. Goodlad & P. Keating (Eds.), *Access to knowledge: An agenda for our nation's schools*. New York: College Entrance Examination Board.

Howard, M.A.D., & Andrew, R.J. (1978). Early identification of potential school dropouts: A literature review. *Child Welfare, 52*, 221-31.

Hoyt, K.B. (1991). A proposal for making transitions from schooling to employment an important component of educational reform. *Future Choices*, 73-83.

Huang, L.N. (1990). Southeast Asian refugee children and adolescents. In J.T. Gibbs, L.N. Huang, et al. (Eds.), *Children of color: Psychological interventions with minority youth*. San Francisco: Jossey-Bass.

Huffine, C.L. (1989). Social and cultural risk factors for youth suicide. In L. Davidson & M. Linnoila (Eds.), *Report of the secretary's task force on youth suicide. Volume 2: Risk factors for youth suicide* (pp. 2-56 to 2-70). Washington, DC: U.S. Government Printing Office.

Hunter, R., Kilstrom, N., Kraybill, E., & Loda, F. (1978). Antecedents of child abuse and neglect in premature infants: A prospective study in a newborn intensive care unit. *Pediatrics, 61*, 629-635.

Ianni, F.A.J. (1989). *The search for structure: A report on American youth today*. New York: Free Press.

Interagency Committee on Learning Disabilities. (1987). *Learning disabilities: A report to the U.S. Congress*. Washington, DC: Author.

Jackson, P.W. (Ed.). (1992). *Handbook of research on curriculum*. New York: Macmillan.

Jacobs, J. (1991, July 28). Marlboro kids have it tough, too. *San Jose Mercury News*, p. 7C.

Jaynes, G.A. & Williams, R.M., Jr. (1989). *A common destiny: Blacks and American society*. Washington, DC: National Academy Press.

Jencks, C. et al. (1972). *Inequality: A reassessment of family and schooling in America*. New York: Basic Books.

Johnson, D.W. & Johnson, R.T. (1979). Conflict in the classroom: Controversy and learning. *Review of Educational Research, 49*, 51-69.

Johnson, M.K. & Hutchinson, R.L. (1987, May). *Effects of family structure on children's self-concepts*. Paper presented at the meeting of the Midwestern Psychological Association, Chicago, IL.

Johnson, R.T. (1992). Learning technology contexts for at-risk children. In Waxmen, H.C., et al. (Eds.), *Students at risk in at-risk schools: Improving environments for learning* (pp. 87-104). Newbury Park, CA: Corwin Press.

Joining Forces (no date). *New beginnings An overview*. Washington, DC: American Public Welfare Association and Council of Chief State School Officers.

Kahn, S. (1992). University science teaching must reach out to women and minorities. *The Journal of NIH Research, 4*, 56-60.

Karier, C.J. (Ed.). (1975). *Shaping the American educational state: 1900 to the present*. New York: Free Press.

Karweit, N. (1987). *Full or half day kindergarten does it matter?* (Report No. 11). Baltimore, MD: Johns Hopkins University, Center for Research on Elementary and Middle Schools.

Karweit, N.L. (1989). Effective kindergarten programs and practices for students at risk of academic failure. In R.E. Slavin, N.L. Karweit, and N.A. Madden (Eds.), *Effective Programs for Students at Risk*. Needham Heights, MA: Allyn and Bacon.

Katz, M. (1971). *Class, bureaucracy, and schools*. New York: Praeger Publishers.

Katz, P. (1988). Children and social issues. *Journal of Social Issues, 44*(1), 193-209.

Kelly, D. (1989, March). *Slipping in and out of the system: Continuation high schools and the process of disengagement*. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, CA.

Kelly, F.J., Veldman, D.J., & McGuire, C. (1964). Multiple discrimination prediction of delinquency and school dropouts. *Educational and Psychological Measurement, 24*, 535-544.

Kempe, R.S. & Goldbloom, R.B. (1987). Malnutrition and growth retardation ("failure to thrive") in the context of child abuse and neglect. In R.E. Helfer & R.S. Kempe (Eds.) *The battered child* (pp. 312-335). Chicago: University of Chicago Press.

Kiesling, H.J. (1984). Assignment practices and the relationship of instructional time to the reading performance of elementary school children. *Economics of Education Review, 3*, 341-350.

Kirby, P., Stringfield, S., Teddlie, C., & Wimpelberg, C. (1991). *Teacher induction into more and less effective schools*. Paper presented at the meeting of the International Congress for School Effectiveness and Improvement, Cardiff, Wales.

Kirby, P., Stringfield, S., Teddlie, C., & Wimpelberg, C. (1991). Teacher induction into more and less effective schools. *School Effectiveness and School Improvement, 3*(3), 187-203.

Kliebard, H. (1986). T*he struggle for the American curriculum: 1893-1958*. Boston, MA: Routledge and Kegan Paul.

Kline, J., Stein, Z., & Hutzler, M. (1987). Cigarettes, alcohol and marijuana: Varying associations with birthweight. *International Journal of Epidemiology, 16*, 44-51.

Koslin, S., Koslin, B., Pargament, R., & Waxman, H. (1972). Classroom racial balance and students' interracial attitudes. *Sociology of Education, 45*, 386-407.

Kotlowitz, A. (1991). *There are no children here*. New York: Doubleday.

Kozol, J. (1991). *Savage inequalities*. New York: Crown.

Krugman, R. & Jones, D.P.H. (1987). Incest and other forms of child abuse. In R.E. Helfer & R.S. Kempe (Eds.), *The battered child* (pp. 286-300). Chicago: University of Chicago Press.

Kulik, C.C. & Kulik, J.A. (1982). Effects of ability grouping on secondary school students: A meta-analysis of evaluation findings. *American Educational Research Journal, 19*, 415-428.

Kunjufu, J. (1988). *To be popular or smart: The black peer group*. Chicago, IL: African American Images.

Lamb, M. (1981). *The role of fathers in child development.* New York: Wiley Interscience.

Landers, D.M. & Landers, D.M. (1978). Socialization via interscholastic athletics: Its effects on delinquency. *Sociology of Education, 51*, 299-303.

Lannie, V.P. (1971). *Common school movement*. In The Encyclopedia of Education, Vol. 2. New York: Macmillan.

LaPorte, T., & Consolini, P. (1991). Working in practice but not in theory: Theoretical challenges of high-reliability organizations. *Journal of Public Administration Research and Theory, 1*(1), 19-48.

Larson, K.A. (1989, March). *Early secondary school adjustment for at-risk and highest-risk students*. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, CA.

Lawton, M. (1990). Two schools aimed for black males set in Milwaukee. *Education Week, X*(6), 1, 12.

LeCompte, M.D. & Dworkin, A.G. (1991). *Giving up on school: Student dropouts and teacher burnouts*. Newbury Park, CA: Corwin Press.

Lee, C.D. (1992). Literacy, cultural diversity, and instruction. *Education and Urban Society, 24*, 279-291.

Leinhardt, G. & Pallay, A. (1982). Restrictive educational settings: Exile or haven? *Review of Educational Research, 52*, 557-578.

Lehr, J.B. & Harris, H.W. (1988). *At risk, low-achieving students in the classroom*. Washington, DC: National Education Association.

Lepper, M.R. (1988). Motivational considerations in the study of instruction. *Cognition and Instruction, 5*(4), 289-309.

LeTendre, M.J., (1991, April). Improving Chapter 1 programs: We can do better. *Phi Delta Kappan*, 577-580.

LeTendre, M. (1991). The continuing evolution of a federal role in compensatory education. *Educational Evaluation and Policy Analysis, 13*, 328-334.

Levin, H., Glass, G.V., & Meister, G.R. (1984). *A cost-effectiveness analysis of four educational interventions* (Project Report No. 84-A11). Stanford, CA: Stanford University, Institute for Research on Educational Finance and Governance.

Levin, H., Glass, G.V., & Meister, G.R. (1986). The political arithmetic of cost-effectiveness analysis. *Phi Delta Kappan, 68*, 69-72.

Levine, D., & Lezotte, L. (1990). *Unusually effective schools*. Madison, WI: National Center for Effective Schools R & D.

Levinson, A.M. (1988). Reexamining teacher preferences and compensating wages. *Economics of Education Review, 7*, 357-364.

Levy, J.E. (1989). *Joining Forces: A report from the first year*. Alexandria, VA: National Association of State Boards of Education.

Lewis, A.C. (1992, November). A tale not widely told. *Phi Delta Kappan*, 196-197.

Lewis, C.E. & Lewis, M.A. (1984). Peer pressure and risk-taking behaviors in children. *American Journal of Public Health, 74*, 580-584.

Lewis, K. & Miles, M. (1990). *Improving the urban high school*. New York: Teachers College Press.

Lightfoot, S.L. (1978). *Worlds apart: Relationships between families and schools*. New York: Basic Books.

Lightfoot, S.L. (1983). *The good high school*. New York: Basic Books.

Lillie-Blanton, M., Anthony, J.C., & Schuster, C.R. (1993). Probing the meaning of racial/ethnic group comparisons in crack cocaine smoking. *Journal of the American Medical Association, 269*(8), 993-997.

Linn, S., Schoenbaum, S.C., Monson, R.R., Rosner, R., Stubblefield, P.C., & Ryan, K.J. (1983). The association of marijuana use with outcome of pregnancy. *American Journal of Public Health, 73*, 1161-1164.

Lipsitz, J. (1984). *Successful schools for young adolescents*. New Brunswick, NJ: Transaction.

Littel, J. & Wynn, J. (1989). *The availability and use of community resources for young adolescents in an inner-city and a suburban community*. Chicago: Chapin Hall Center for Children, University of Chicago.

Lloyd, D.N. (1978). Prediction of school failure from third-grade data. *Educational and Psychological Measurement, 38*, 1193-1200; 25, 555-571.

Lowe, R. (1992, April). *Benign intentions: The magnet school at Ravenswood High*. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, CA.

Lucas, T., Henze, R., and Donato, R. (1990). Promoting the success of Latino language-minority students: An exploratory study of six high schools. *Harvard Educational Review, 60*(3), 315-340.

Lynd, S. (1968). Slavery and the founding fathers. In M. Drimmer (Ed.), *Black history: A reappraisal* (pp. 117-131). New York: Doubleday.

Mac Iver, D. (1991, April). *Enhancing students' motivation to learn by altering assessment, reward, and recognition structures: Year 1 of the Incentives for Improvement Program*. Baltimore, MD: Johns Hopkins University, Center for Research on Effective Schooling for Disadvantaged Students.

Mac Iver, D.J. (1990). Meeting the needs of young adolescents: Advisory groups, interdisciplinary teaching teams, and school transition programs. *Phi Delta Kappan, 71*, 458-464.

Mac Iver, D.J. (1991, April). *Helping students who fall behind: Remedial activities in the middle grades*. Presented at the annual meeting of the American Educational Research Association, Chicago, IL.

Madden, N. & Slavin, R.E. (1983). Mainstreaming students with mild handicaps: Academic and social outcomes. *Review of Educational Research, 53*, 519-569.

Madden, N.A., Slavin, R.E., Karweit, N.L., Dolan, L., & Wasik, B.A. (1991). Success for All. *Phi Delta Kappan, 72*, 593-599.

Madden, N.A., Slavin, R., Karweit, N., Dolan, L., & Wasik, B. (1991). *Success for All: Multi-year effects of a schoolwide elementary restructuring program* (Report No. 18). Baltimore, MD: Johns Hopkins University, Center for Research on Effective Schooling for Disadvantaged Students.

Madden, N.A., Slavin, R.E., Karweit, N.L., Dolan, L.J., & Wasik, B.A. (1993). Success for All: Longitudinal effects of a restructuring program for inner-city elementary schools. *American Educational Research Journal, 30*(1), pp. 123-148.

Maeroff, G.I. (1990). Getting to know a good middle school: Shoreham-Wading River. *Phi Delta Kappan, 71*, 505-511.

BEST COPY AVAILABLE

Maeroff, G.I. (1992). To improve schools, reduce their size. *College Board News*, *20*(3), 3.

Marlowe, M., Folio, R., Hall, D., & Errera, J. (1982). Increased lead burdens and trace-mineral status in mentally retarded children. *Journal of Special Education*, *16*(1), 87-99.

Marrett, C. & Kim, G.W. (1986). *The organizational context of higher order thinking*. Washington, DC: Office of Educational Research and Improvement.

Martin, J.A. & Elmer, E. (1992). Battered children grown up: A follow-up study of individuals severely mistreated as children. Child Abuse and Neglect: *The International Journal*, *16*(1).

Mathieu, D.J. (1976). *Indian education*. Spearfish, SD: Center of Indian Studies, Black Hills State College.

Mathtec, Inc. (1991). *National Center for Service Integration*. Falls Church, VA: Author.

Mayes, L.C., Granger, R.H., Bornstein, M.H., & Zuckerman, B. (1992).The problem of prenatal cocaine exposure. *Journal of the American Medical Association*, *267*(3), 406-408.

McCarty, D. (1976). An Indian student speaks. In D.J. Mathieu (Ed.), *Indian education* (pp. 173-176). Spearfish, SD: Center of Indian Studies, Black Hills State College.

McCarty, T.L. (1989). School as community: The Rough Rock demonstration. *Harvard Educational Review*, *59*, 484-503.

McClelland, K. (1990). Cumulative disadvantage among the highly ambitious. *Sociology of Education*, *63*(April), 102-121.

McCollum, P.A. & Walker, C.L. (1992). Minorities in America 2000. *Education and Urban Society*, *24*, 178-195.

McCormick, M.C., Gortmaker, S.L., & Sobol, A.M. (1990). Very low birthweight children: Behavior problems and school difficulty in a national sample. *Journal of Pediatrics*, *117*, 687-693.

McDermott, R. (1987). Achieving school failure: An anthropological approach to illiteracy and social stratification. In G.D. Spindler (Ed.), *Education and cultural process* (pp. 173-207). Prospect Heights, IL: Waveland Press.

McDill, E.L. (1992). Compensatory education. In M.C. Alkin (Ed.), *Encyclopedia of Educational Research*, 6th Edition. New York: Macmillan Reference (in press).

McDill, E.L., Natriello, G., & Pallas, A.M. (1985). Raising standards and retaining students: The impact of the reform recommendations on dropouts. *Review of Educational Research, 55*, 415-433.

McDill, E.L., Natriello, G., & Pallas, A.M. (1987). A population at risk: Potential consequences of tougher school standards for school dropouts. In G. Natriello (Ed.), *School dropouts: Patterns and practices* (pp. 106-147). New York: Teachers College Press.

McGroarty, M. (1992). The societal context of bilingual education. *Educational Researcher, 21*(2), 7-9.

McKey, R.H., et al. (1985). *The impact of head start on children, families and communities*. Washington, DC: CSR, Inc.

McPartland, J.M. & Slavin, R.E. (1990). *Increasing achievement of at-risk students at each grade level*. Office of Educational Research and Improvement, Policy Perspectives. Washington, DC: U.S. Government Printing Office.

McPartland, J.M. (1990). Staffing decisions in the middle grades: Balancing quality instruction and teacher/student relations. *Phi Delta Kappan, 71*, 465-469.

McPartland, J.M. (1992). *Staffing patterns and the social organization of schools*. Paper presented at the meeting of the Society of Research for Adolescents, Washington, DC.

McPartland, J.M. & Nettles, S.M. (1991). Using community adults as advocates or mentors for at-risk middle school students: A two-year evaluation of Project RAISE. *American Journal of Education, 99*, 568-586.

Means, B., Chelemer, C. & Knapp, M.S. (1991). *Teaching advanced skills to at-risk students: Views from research and practice*. San Francisco: Jossey-Bass.

Measelle, R. & Egol, M. (1990). *A new system of education: World-class and customer-focused*. New York: Arthur Anderson & Co.

Mecklenberger, J.A. (1990). Educational technology is not enough. *Phi Delta Kappan, 72*, 104-109.

Mensch, B.S. & Kandel, D.B. (1988). Dropping out of high school and drug involvement. *Sociology of Education, 61*, 95-113.

Merchant, B. (1987). *Dropping out: A preschool through high school concern*. Berkeley, CA: Policy Analysis for California Education.

Merwin, J. (1990, February 6). In this room, boys always are at the head of the class. *Baltimore Evening Sun*.

Meyers, M. & Bernier, J. (1987). *Preventing child abuse: A resource for policymakers and advocates*. Boston, MA: Massachusetts Committee for Children and Youth.

Mielke, H.W., Anderson, J.C., Berry, K.J., Mielke, P.W., Chaney, R.L., & Leech, M. (1983). Lead concentrations in inner-city soils as a factor in the child lead problems. *American Journal of Public Health, 73*(12).

Miller, J. (1992, March 25). Improvement plan for Chapter 1 seen needing overhaul. *Education Week, XI*(27).

Miller, S.E., Leinhardt, G., & Zigmond, N. (1988). Influencing engagement through accommodation: An ethnographic study of at-risk youth. *American Educational Research Journal, 25*, 465-487.

Millman, J. (1981). *Handbook of teacher evaluation*. Beverly Hills: Sage.

Mohraz, J.J. (1979). *The separate problem: Case studies of black education in the North, 1900-1930*. Westport, CT: Greenwood Press.

Molnar, J. (1988). *Home is where the heart is: The crisis of homeless children and families in New York City*. New York: Bank Street College of Education.

Molnar, J.M., Rath, W.R. & Klein, T.P. (1990). Constantly compromised: The impact of homelessness on children. *Journal of Social Issues, 46*(4), 109-124.

Monk, D.H. & Ibrahim, M.A. (1984).Patterns of absence and pupil achievement. *American Educational Research Journal, 21*, 295-310.

Montgomery, A.F. & Rossi, R.J. (1994). Becoming at risk of failure in America's schools. In Rossi, R.J. (Ed.) *Schools and students at risk: Context and framework for positive change*. New York: Teachers College Press.

Moore, E.G.J. (1985).Ethnicity as a variable in child development. In M.B. Spencer, G.K. Brookins, & W.R. Allen (Eds.), *Beginnings: The social and affective development of black children* (pp. 201-214). Hillsdale, NJ: Lawrence Erlbaum Associates.

Moos, R.H. (1979). *Evaluating educational environments: Procedures, measures, findings, and policy implications*. San Francisco: Jossey-Bass.

Morgan, D.L., & Alwin, D.F. (1980).When less is more: School size and student social participation. *Social Psychology Quarterly, 43*, 241-52.

Morse, S. (1988, October). *Characteristics of migrant secondary students: Outreach meeting report*. (ERIC No. ED 319 550).

Mortimore, P., Sammons, P., Stoll, L., Lewis, D., & Ecob, R. (1988). *School matters*. Somerset, Eng.: Open Books.

Moses, R.P., Kamii, M., Swap, S.M., & Howard, J. (1989). The algebra project: Organizing in the spirit of Ella. *Harvard Educational Review, 59*, 27-47.

Murphy, K., & Welch, F. (1989). Wage premiums for college graduates: Recent growth and possible explanations. *Educational Researcher, 18*(4), 17-26.

Murray Nettles, S. (1989). The role of community involvement in fostering investment behavior in low-income black adolescents: A theoretical perspective. *Journal of Adolescent Research, 4*, 190-201.

Myers, D. (in press). *A report on the effects of the upward bound and supplemental services: Findings from extant data*. (Contract No. LC89082001). Department of Education, Office of Planning and Evaluation.

NAACP Legal Defense and Education Fund, Inc. (1991). *Reflections on proposals for separate schools for African male pupils*. Unpublished manuscript. New York: Author.

National Alliance of Black School Educators. (1984). *Saving the African American child*. Washington, DC: Author.

National Center for Research in Vocational Education: NCAVE Change Agent. (1991). *The cunning hand, the cultured mind, 1*(2), 4-6. University of California, Berkeley: Author.

National Commission on Excellence in Education. (1983). *A nation at risk: The imperative for educational reform*. Washington, DC: U.S. Government Printing Office.

National Committee for Citizens in Education. (1988). *Dropout prevention: A book of sources*. Columbia, MD: Author.

National Council of Teachers of Mathematics. (1989). *Curriculum and evaluation standards for school mathematics*. Reston, VA: Author.

National Foundation for the Improvement of Education. (1991). *Images in action: Linking technology and restructuring*. Washington, DC: Author.

National Research Council. (1989). *Everybody counts: A report to the nation on the future of mathematics education*. Washington, DC: National Academy Press.

Natriello, G. (1984). Problems in the evaluation of students and student disengagement from secondary schools. *Journal of Research and Development in Education, 17*, 14-24.

Natriello, G. & Dornbusch, S.M. (1984). Bringing behavior back in: The effects of student characteristics and behavior on the classroom behavior of teachers. *American Educational Research Journal, 20*(1), 29-43.

Natriello, G. & Dornbusch, S.M. (1984). *Teacher evaluative standards and student effort*. New York: Longman.

Natriello, G., McDill, E.L., & Pallas, A.M. (1990). *Schooling disadvantaged children: Racing against catastrophe*. New York: Teachers College Press.

Natriello, G., Pallas, A.M., McDill, E.L., McPartland, J.M., & Royster, D. (1988). *An examination of the assumptions and evidence for alternative dropout prevention programs in high school*. Baltimore, MD: Center for Social Organization of Schools.

Needleman, H.L., Gunnoe, C., Leviton, A., et al. (1979). Deficits in psychological and classroom performance of children with elevated dentine lead levels. *New England Journal of Medicine, 300*, 689.

Nettles, S.M. (1991a). Community contributions to school outcomes of African-American students. *Education and Urban Society, 24*, 132-147.

Nettles, S.M. (1991b). Community involvement and disadvantaged students: A review. *Review of Educational Research, 61*, 379-406.

Neuman, J. (1988). *What should we do about the highly mobile student?* A research brief. Mount Vernon, WA: Educational Service District 189 (ED 305 545).

New Jersey Department of Human Resources (1988). *Coming of age in New Jersey: Today's adolescents face new and complex problems*. NJ: Author.

New York Times. (1992, September 17). Dropout rates decline for most. *New York Times*, p. A16.

Newby, I.A. (1968). *The development of segregationist thought*. Homewood, IL: Dorsey Press.

Newmann, F. (1981). Reducing student alienation in high schools: Implications of theory. *Harvard Educational Review, 51*, 546-564.

Newmann, F.M. & Rutter, R.A. (1985-1986). A profile of high school community service programs. *Educational Leadership, 43*(4), 65-71.

Newmann, F., & Wehlage, G. (1995) *Successful school restructuring*. Madison, WI: Wisconsin Center for Education Research.

Nichols-Pierce, M. (1992). *Socio-political organizations and diverse populations: Responding to the educational needs of homeless students*. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, CA.

Nidorf, J. (1985). Mental health and refugee youths: A model for diagnostic training. In T. Owan (Ed.), *Southeast Asian mental health: Treatment, prevention, services, training, and research*. Washington, DC: U.S. Department of Health and Human Services.

Niemiec, R.P., Blackwell, M.C., & Walberg, H.J. (1986). CAI can be doubly effective. *Phi Delta Kappan, 67*, 750-751.

Noddings, N. (1992). Variability: A pernicious hypothesis. *Review of Educational Research, 62*(1), 85-88.

Noley, G. (1994). Educational reform and American Indian cultures. In R.J. Rossi (Ed.), *Educational reforms and students at risk*. New York: Teachers College Press.

Northwest Regional Education Laboratory. (1985). *Effective practices in Indian education*. Portland, OR: Research and Development Program for Indian Education.

Oakes, J. (1985). *Keeping track: How schools structure inequality*. New Haven, CT: Yale University Press.

Oakes, J. (1986). Keeping track, part 2: Curriculum inequality and school reform. *Phi Delta Kappan, 68*, 148-154.

Oakes, J. (1989). Tracking in secondary schools: A contextual perspective. In R.E. Slavin (Ed.), *School and classroom organization* (pp. 173-196). Hillsdale, NJ: Lawrence Erlbaum Associates.

Oakes, J. (1992). Grouping students for instruction. In M.C. Alkin (Ed.), *Encyclopedia of Educational Research*, 6th Edition (pp. 562-568). New York: Macmillan.

Oakes, J. & Lipton, M. (1990). Tracking and ability grouping: A structural barrier to access and achievement. In J.I. Goodlad and P. Keating (Eds.), *Access to knowledge: An agenda for our nation s schools* (pp. 43-58). New York: College Entrance Examination Board.

Odum, H. (1968). The education of Negroes. In I.A. Newby (Ed.), *The development of segregationist thought* (pp. 63-69). New York: Columbia University Press.

OERI Urban Superintendents Network (1987). *Dealing with dropouts: The urban superintendents call to action*. Washington, DC: U.S. Department of Education.

Ogbu, J.U. (1974). *The next generation: The ethnography of education in an urban neighborhood*. New York: Academic Press.

Ogbu, J.U. (1978). *Minority education and caste: The American system in cross-cultural perspective*. New York: Academic Press.

Ogbu, J.U. (1985, December). Research currents: Cultural-ecological influences on minority school learning. *Language Arts, 62*(8), 60-69.

Okakok, L. (1989). Serving the purpose of education. *Harvard Educational Review, 59*, 405- 422.

Olsen, L. (1988). *Crossing the schoolhouse border: Immigrant students and the California public schools*. San Francisco: California Tomorrow.

Onestak, D.M., Forman, S.G., & Linney, J.A. (1989, August). *Family variables and alcohol use in high risk adolescents*. Presented at the meeting of the American Psychological Association, New Orleans, LA.

Orr, M.T. (1987). *Keeping students in school*. San Francisco: Jossey-Bass.

Orr, S.T. & James, S. (1984). Maternal depression in an urban pediatric practice: Implications for health care delivery. *American Journal of Public Health, 74*(4), 363-365.

Page, R. (1989). The lower track curriculum at a "heavenly" high school: "Cycles of prejudice." *Curriculum Studies, 21*(3), 197-221.

Pallas, A.M. (1986). School dropouts in the United States. In Stern, J.D. & Williams, M. F. (Eds.), *The Condition of Education*, 1986 (pp. 158-170). Washington, DC: U.S. Government Printing Office.

Pallas, A.M., Natriello, G., & McDill, E. (1989). The changing nature of the disadvantaged population: Current dimensions and future trends. *Educational Researcher, 18*(5), 16- 22.

Pascoe, J.M. & Earp, J.A. (1984). The effects of mothers' social support and life changes on the stimulation of their children in the home. *American Journal of Public Health, 74*, 358-360.

Pearlin, L.I. & Johnson, J.S. (1977). Marital status, life-strains, and depression. *American Sociological Review, 42*, 704-715.

Peng, S. & Takai, R. (1983). *High school dropouts: Descriptive information from high school and beyond*. Washington, DC: National Center for Education Statistics.

Perrone, V. (Ed.). (1991). *Expanding student assessment*. Alexandria, VA: Association for Supervision and Curriculum Development.

Perry, M., Doran, L., & Wells, E. (1983). Developmental and behavioral characteristics of the physically abused child. *Journal of Clinical Child Psychology, 12*, 320-324.

Peterson, R.E. (1991). Teaching how to read the world and change it: Critical pedagogy in the intermediate grades. In *Literacy as praxis: Culture, language, and pedagogy*. Norwood, NJ: Ablex.

Pfeiffer, J. (1989). The secret of life at the limits: Cogs become big wheels. *Smithsonian, 20*(4), 38-48.

Phibbs, C.S., Bateman, D.A., & Schwartz, R.M. (1991). The neonatal costs of maternal cocaine use. *Journal of the American Medical Association, 266*, 1521-1526.

Phillips, K.R. (1985). *The educational disadvantages of junior high and high school migrant students in Wisconsin*. Part one of a supplementary school program for the children of migratory agricultural workers in Wisconsin. Paper presented at the annual State Superintendents' Conference for Supervisors and Directors of Instruction, Madison, WI.

Pine, G.J. & Hilliard, A.G. (1990, April). Rx for racism: Imperatives for America's schools. *Phi Delta Kappan*, 593-600.

Pinnell, G. (1989). Reading Recovery: Helping at-risk children learn to read. *Elementary School Journal, 90*, 161-182.

Pinnell, G. (1988, April). *Sustained effects of a strategy-centered early intervention program in reading*. Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA.

Plisko, V. & Scott, E. (1991, April). Planned evaluations of Chapter 1. *Phi Delta Kappan*, 590-592.

Pogrow, S.A. (1988). *Evaluation of the Chapter 1 higher order thinking skills project*. Report prepared for the Program Effectiveness Panel of the National Diffusion Network. Tucson: University of Arizona, College of Education.

Pogrow, S.A. (1990). Challenging at-risk students: Findings from the HOTS Program. *Phi Delta Kappan, 71*, 389-397.

Pogrow, S.A. (1990, February). Socratic Approach to Using Computers with At-Risk Students. *Educational Leadership*, 61-66.

Price, H.B. (1992). Multiculturalism: Myths and realities. *Phi Delta Kappan*, 208-213.

Puma, M., Jones, C., Rock, D., & Fernandez, R. (1993). *Prospects: The Congressionally Mandated Study of Educational Growth and Opportunity*. Washington: U.S. Department of Education.

Rafferty, Y. & Rollins, N. (1989). *Learning in limbo: The educational deprivation of homeless children*. New York: Advocates for Children of New York.

Ravitch, D. (1990). Diversity and democracy: Multicultural education in America. *American Educator*, Spring, 16-20, 46-48.

Ravitch, D. (1991-1992). A culture in common. *Educational Leadership, 49*(4), 8-11.

Rebuild L.A. (1992/1993). *Rebuild LA*. Los Angeles, CA: Center for Finance and Real Estate, UCLA School of Management.

Rebuild L.A. (1993, May 17). The renaissance of Los Angeles. *Fortune*, special advertising section.

Reed, R.J. (1975). Ethnicity, social class, and out-of-school educational opportunity. *Journal of Negro Education, 44*, 316-334.

Reich, R.B. (1990). Education and the next economy. In S.B. Bacharach (Ed.), *Education reform: Making sense of it* (pp. 194-212). Needham Heights, MA: Allyn and Bacon.

Resnick, L.B. (1987). *Education and learning to think*. Washington, DC: National Academy Press.

Reyes, M. de la Luz & Laliberty, E.A. (1992). A teacher's "pied piper" effect on young authors. *Education and Urban Society, 24*(2), 263-278.

Reyes, M. de la Luz & McCollum, P.A. (1992). Language, literacy, and educational reform: Rethinking the issues. *Education and Urban Society, 24*(2), 171-177.

Rich, D. (1987). *Schools and families: Issues and actions*. Washington, DC: National Education Association.

Rich, J.M. (1992). *Multicultural education. Innovations in education: Reformers and their critics* (p. 258). Boston: Allyn & Bacon.

Richmond, G. (1989). The future school: Is Lowell pointing us toward a revolution in education? *Phi Delta Kappan, 71*, 232-236.

Riley, D. & Cochran, M. (1987). Children's relationships with non-parental adults: Sex-specific connections to early school success. *Sex Roles, 17*(11-12), 637-655.

Rist, R.C. (1970). Student social class and teacher expectations: The self-fulfilling prophecy in ghetto education. *Harvard Educational Review, 40*, 441-451.

Roberts, C. (1990). Some characteristics of high-reliability organizations. *Organizational Science, 1*(2), 1-17.

Roberts, K. (1993). *New challenges to understanding organizations*. New York: Macmillan.

Robinson, L. (1991, March 31). At Golden Ring, teachers chalk it up to teamwork. *Baltimore Sun*, pp. 1A, 10A.

Rofes, E. (1989). Opening up the classroom closet: Responding to the educational needs of gay and lesbian youth. *Harvard Educational Review, 59*, 444-453.

Romberg, T.A. (1983). A common curriculum for mathematics. In G.D. Fenstermacher, and J.I. Goodlad (Eds.), *Individual Differences and the Common Curriculum*. 82nd yearbook of the National Society for the Study of Education. Chicago: University of Chicago Press.

Romine, B.H., Davis, J.A., & Gehman, W.S. (1970). The interaction of learning, personality traits, ability, and environment: A preliminary study. *Educational and Psychological Measurement, 30*, 337-347.

Ross, S.M., Smith, L. S., & Morrison, G.R. (1991). The longitudinal influences of computer-intensive learning experiences on at-risk elementary students. *Educational Technology Research & Development, 39*(4), 33-46.

Rossi, R.J. (in press). *Effective strategies for keeping students in school: Evaluation of projects funded by the School Dropout Demonstration Assistance Program*. Washington, D.C.: Office of Policy and Planning, U.S. Department of Education.

Rossi, R.J. (Ed.) (1994). *Schools and students at risk: Context and framework for positive change*. New York: Teachers College Press.

Rossi, R.J. & Gilmartin, K.J. (1980). Social indicators of youth development and educational performance: A programmatic statement. *Social Indicators Research, 7*, 157-191.

Rossi, R.J., & Royal, M. (1994). *Measuring workplace community: Final report to the W.K. Kellogg Foundation*. Palo Alto, CA: American Institutes for Research.

Rowen, B. & Denk, C.E. (1984). Management succession, school socioeconomic context, and basic skills achievement. American Educational Research Journal, 21(3), 517-537.

Rumberger, R.W. (1983). Dropping out of high school: The influence of race, sex, and family background. *American Educational Research Journal, 20*, 199-220.

Rumberger, R.W. (1987). High school dropouts: A review of issues and evidence. *Review of Educational Research, 57*, 101-122.

Rumburger, R.W. & Larson, K. (1994). Keeping high-risk Chicano students in school: Lessons from a Los Angeles middle school dropout prevention program. In R.J. Rossi (Ed.), *Educational reforms and students at risk*. New York: Teachers College Press.

Rutter, M. (1979). Protective factors in children's responses to stress and disadvantage. In M.W. Kent and J.E. Rolf (Eds.), *Primary prevention of psychopathology, Volume III: Social competence in children*. Hanover, NH: University Press of New England.

Ryan, W. (1976). *Blaming the victim*. New York: Vintage Books.

San Miguel, G. (1987a). The status of historical research on Chicano education. *Review of Educational Research, 57*, 467-480.

San Miguel, G. (1987b). *Let all of them take heed: Mexican Americans and the campaign for educational equality in Texas, 1910-1981*. Austin, TX: University of Texas Press.

Sartain, H.W. (1989). *Non-achieving students at risk: School, family, and community intervention*. Washington, DC: National Education Association.

Saulnier, K.M. & Rowland, C. (1985). Missing links: An empirical investigation of network variables in high-risk families. *Family Relations, 34*(4), 557-560.

Schine, J. (1988). *Community service for young adolescents*. Washington, DC: Carnegie Task Force for Education of Early Adolescents.

Schunk, D.H. (1987). Peer models and children's behavioral change. *Review of Educational Research, 57*, 149-174.

Schunk, D.H. & Hanson, A.R. (1985). Peer models: Influence on children's self-efficacy and achievement. *Journal of Educational Psychology, 79*, 54-61.

Sears, J.T. (1991, September). Helping students understand and accept sexual diversity. *Educational Leadership*, 54-56.

Semons, M. (1989, March). *The salience of ethnicity at a multiethnic urban high school from the students' perspective*. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, CA.

Sexton, P.C. (1961). *Education and income: Inequalities in our public schools*. New York: Viking Press.

Sharon, S. (1980). Cooperative learning in small groups: Recent methods and effects on achievement, attitudes, and ethnic relations. *Review of Educational Research, 50*, 241-71.

Sheingold, K. & Hadley, M. (1990). *Accomplished teachers: Integrating computers into classroom practice*. New York: Bank Street College of Education, Center for Technology in Education.

Sheingold, K. & Tucker, M.S. (Eds.). (1990). *Restructuring for learning with technology*. New York: Center for Technology in Education, Bank Street College of Education and National Center on Education and the Economy.

Shepard, L.A. & Smith, M.L. (1989). *Flunking grades: Research and policies on retention*. Philadelphia, PA: Falmer.

Shonkoff, J.P. (1984). Social support and the development of vulnerable children. *American Journal of Public Health, 74*(4), 310-314.

Showers, B., Joyce, B., & Bennett, B. (1987). Synthesis of research on staff development: A framework for future study and a state-of-the-art analysis. *Educational Leadership, 45*(3), 87-97.

Shrivastava, P. (1986). *Bhopal*. New York: Basic Books.

Sicherman, N. (1990). Education and occupational mobility. *Economics of Education Review, 9*(2), 163-179.

Siddle-Walker, E.V. (1992, April). *Relations between community and school: Learning from the "good" segregated schooling of African-American children*. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, CA.

Sipe, C.L., Grossman, J.B., & Milliner, J.A. (1987). *Summer training and education program (STEP): Report on the 1986 experience*. Philadelphia, PA: Public/Private Ventures.

Sipe, C.L., Grossman, J.B., & Milliner, J.A. (1988). *Summer training and education program (STEP): Report on the 1987 experience*. Philadelphia: Public/Private Ventures.

Sirotnik, K.A. (1990). Equal access to quality in public schooling: Issues in the assessment of equity and excellence. In J.I. Goodlad & P. Keating (Eds.), *Access to knowledge: An agenda for our nation's schools* (pp. 159-185). New York: College Entrance Examination Board.

Skon, L., Johnson, D.W., & Johnson, R.T. (1981). Cooperative peer interaction versus individual competition and individualistic efforts: Effects on the acquisition of cognitive reasoning strategies. *Journal of Educational Psychology, 73*(1), 83-92.

Slaughter, D.T. & Epps, E.G. (1987). The home environment and academic achievement of black American children and youth: An overview. *Journal of Negro Education, 56*(1), 3-20.

Slaughter, D.T. & McWorter, G.A. (1985). Social origins and early features of the scientific study of black American families and children. In M.B. Spencer, G.K. Brookins, & W.R. Allen (Eds.), *Beginnings: The social and affective development of black children*. Hillsdale, NJ: Lawrence Erlbaum Associates.

Slavin, R. (1990). On making a difference. *Educational Researcher, 19*(13), 30-44.

Slavin, R.E. (1980). Effects of individual learning expectations on student achievement. *Journal of Educational Psychology, 72*, 520-524.

Slavin, R.E. (1983). *Cooperative learning*. New York: Longman.

Slavin, R.E. (1986). *Educational psychology: Theory into practice*. Englewood Cliffs, NJ: Prentice-Hall.

Slavin, R.E. (1987). Ability grouping and student achievement in elementary schools: A best-evidence synthesis. *Review of Educational Research, 57*, 293-336.

Slavin, R.E. (1989). Students at risk of school failure: The problem and its dimensions. In R.E. Slavin, N.L. Karweit, & N.A. Madden (Eds.), *Effective programs for students at-risk* (pp. 3-17). Needham Heights, MA: Allyn & Bacon.

Slavin, R.E. (1990). *Achievement effects of ability grouping in secondary schools: A best-evidence synthesis*. Madison, WI: National Center on Effective Secondary Schools.

Slavin, R.E. (1990). *Cooperative learning: Theory, research and practice*. Englewood Cliffs, N.J: Prentice-Hall.

Slavin, R.E. & Madden, N.A. (1991). Modifying Chapter 1 program improvement guidelines to reward appropriate practice. *Evaluation and Policy Analysis, 13*(4), 369-379.

Slavin, R.E., Karweit, N.L., & Madden, N.A. (Eds.). (1989). *Effective programs for students at-risk*. Needham Heights, MA: Allyn & Bacon.

Slavin, R.E., Karweit, N.L., & Wasik, B. (1992). *Preventing early school failure: What works?* Baltimore, MD: Johns Hopkins University, Center for Research on Effective Schooling for Disadvantaged Students.

Slavin, R.E., Karweit, N.L., & Wasik, B. (1994). *Preventing early school failure: Research, policy, and practice*. Needham Heights, MA: Allyn and Bacon.

Slavin, R., Madden, N., Karweit, N., Dolan, L., & Wasik, B. (1992). *Success for All: A relentless approach to prevention and early intervention in elementary schools*. Arlington, VA: Educational Research Service.

Slavin, R.E., Madden, N.A., Karweit, N.L., Livermon, B.J., & Dolan, L. (1990). Success for all: First-year outcomes of a comprehensive plan for reforming urban education. *American Educational Research Journal, 27*, 255-278.

Slavin, R.E., Stringfield, S., & Winfield, L. (1991). *Effective alternatives to traditional Chapter 1 programs*. Baltimore, MD: Johns Hopkins University, Center for Research on Effective Schooling for Disadvantaged Students.

Smith, M.S. & O Day, J. (1991). Educational equality: 1966 and now. In D.A. Vestegen & J.G. Ward (Eds.), *Spheres of justice in education: The 1990 American Education Finance Association yearbook*. New York: Harper Business.

Smith, R., & Tyler, R. (1942). *Adventures in American education: Volume III: Appraising and recording student progress*. New York: Harper.

Snider, W. (1989, May 17). Study: Schools violating rights of pregnant girls. *Education Week, 8*, 34.

Sobol, T. (1990). Understanding diversity. *Educational Leadership, 48*(2), 27-30.

Sorensen, A.B. & Hallinan, M.T. (1986). Effects of ability grouping on growth in academic achievement. *American Educational Research Journal, 23*, 519-542.

Southern Education Foundation (1990). Finding more black male teachers for America's classrooms. *Pipeline*, Spring/Summer: 1,3,7.

Spencer, M.B., Brookins, G.K., & Allen, W.R. (Eds.) (1985). Beginnings: The social and affective development of black children. Hillsdale, NJ: Lawrence Erlbaum Associates.

Spilman, C. (1990). *Peer tutoring at Canton Middle School*. Baltimore, MD: Author.

Spindler, G.D. (1987). Why have minority groups in North America been disadvantaged by their schools? In G.D. Spindler (Ed.), *Education and cultural process* (pp. 160-172). Prospect Heights, IL: Waveland Press.

Sroufe, L.A. & Egeland, B. (1989, April). *Early predictors of psychopathology and competence in children*. Paper presented at the meeting of the Society for Research in Child Development, Kansas City, MO.

Stainback, S.B. & Stainback, W.C. (1989). Classroom organization for diversity among students. In D.P. Biklen, D. Ferguson, & A. Ford (Eds.), *Schooling and disability* (pp. 195-207). Chicago, IL: University of Chicago Press.

Stanley, E.J. & Barter, J.T. (1970). Adolescent suicidal behavior. *American Journal of Orthopsychiatry, 40*, 87-96.

Stanton-Salazar, R.D. (1990). *The role of social and information networks in the formation of educational and occupational expectations among Mexican-origin high school youth*. Unpublished doctoral dissertation, Stanford University, Stanford, CA.

Steele, B. (1987). Psychodynamic factors in child abuse. In R.E. Helfer & R.S. Kempe (Eds.), *The battered child* (pp. 81-114). Chicago: University of Chicago Press.

Steele, C.M. (1992, April). Race and the schooling of black Americans. *Atlantic Monthly*, 68-78.

Stern, D., Paik, I., Catterall, J.S., & Nakata, Y. (1989). Labor market experience of teenagers with and without high school diplomas. *Economics of Education Review, 8*, 233-246.

Stern, D. (1989). Educational cost factors and student achievement in grades 3 and 6: Some new evidence. *Economics of Education Review, 8*, 149-158.

Stinchcombe, A.L. (1964). *Rebellion in a high school*. Chicago: Quadrangle Books.

Strickland, D.S. & Ascher, C. (1992). Low-income African-American children and public schooling. In Philip W. Jackson (Ed.), *Handbook of Research on Curriculum* (pp. 609-625). New York: Macmillan.

Stringfield, S. (1995). Attempts to enhance students' learning: A search for valid programs and highly reliable implementation techniques. *School Effectiveness and School Improvement*, (6) 1, 67-96.

Stringfield, S. (1991, January). *A model of elementary schooling effects: Evidence of support*. Paper presented at the fourth annual meeting of the International Congress for School Effectiveness and Improvement, Cardiff, Wales.

Stringfield, S., Billig, S., & Davis, A. (1991). A research-based program improvement process for Chapter 1 schools: A model and early results. *Phi Delta Kappan*, *72*(8), 600-606.

Stringfield, S., Billig, S., & Davis, A. (1991, April). Implementing a research-based model of Chapter 1 program improvement. *Phi Delta Kappan*, 600-605.

Stringfield, S. & Teddlie, C. (1991). Observers as predictors of schools multi-year outlier status. *Elementary School Journal*, *91*(4), 357-376.

Stringfield, S. & Teddlie, C. (1988). A time to summarize: Six years and three phases of the Louisiana School Effectiveness Study. *Educational Leadership*, *46*(2), 43-49.

Stringfield, S., Winfield, L., Millsap, M., Puma, M., Gamse, B., & Randall, B. (1994). *Urban and suburban/rural special strategies for educating disadvantaged children: First year report*. Washington, D.C.: U.S. Department of Education.

Stringfield, S. & Yoder, N. (1992). Toward a model of elementary grades Chapter 1 effectiveness. In H. Waxman, J. deFelix, J. Anderson, & P. Baptistse (Eds.), *Students at risk in at-risk schools* (pp. 203-221). Newbury Park, CA: Sage.

Stroup, A.L. & Robins, L.N. (1972). Elementary school predictors of high school dropout among black males. *Sociology of Education*, *45*, 212-222.

Suarez-Orozco, M.M. (1989). *Central American refugees and U.S. high schools: A psychosocial study of motivation and achievement*. Stanford, CA: Stanford University Press.

Suppes, P. (1966). The uses of computers in education. *Scientific American*, *215*, 207-220.

Suryaraman, M. (1991, December 8). Asian-American teens say pain of alienation fosters youth gangs. *San Jose Mercury News*, p. 3B.

Sutton, R.E. (1991). Equity and computers in the schools: A decade of research. *Review of Educational Research*, *61*, 475-503.

Swift, J.S. (1986). The move to educational excellence does not mean a move to educational equality. *Negro Educational Review, 24*(3-4), 119-126.

Tallmadge, G., & Wood, C. (181). *User's guide: ESEA Title I evaluation and reporting system*. Mountain View, CA: RMC Research.

Wagenaar, T.C. (1987). What do we know about dropping out of high school? In R.G. Corwin (Ed.), *Research in the sociology of education and socialization, 7*, 161-190. Greenwich, CT: JAI.

Walberg, H.J. & Tsai, S. (1983). Matthew effects in the classroom. *American Educational Research Journal, 20*, 359-373.

Walker, G. & Vilella-Vilez, F. (1992). *Anatomy of a demonstration: The summer training and education program (STEP) from pilot through replication and postprogram impacts*. Philadelphia: Public/Private Ventures.

Wallerstein, J.S. & Kelly, J.B. (1980). *Surviving the breakup: How children and parents cope with divorce*. New York: Basic Books.

Ward, B. & Tikunoff, W. (1989). *New teacher retention project*. Los Alamitos, CA: Southwest Regional Educational Laboratory.

Wasik, B. & Slavin, R.E. (1990). *Preventing early reading failure with one-to-one tutoring: A best evidence synthesis* (Report No. 6). Baltimore, MD: Johns Hopkins University, Center for Research on Effective Schooling for Disadvantaged Students.

Waugh, R.F. & Punch, K.F. (1987). Teacher receptivity to systemwide change in the implementation stage. *Review of Educational Research, 57*, 237-254.

Waxman, H., Walker de Felix, J., Anderson, J., & Baptiste, H.P. (1992). *Students at risk in at-risk schools: Improving environments for learning*. Newbury Park: Corwin Press, Inc.

Wehlage, G.G. (1989). Dropping out: Can schools be expected to prevent it? In L. Weis, E. Farrar, & H.G. Petrie (Eds.), *Dropouts from school: Issues, dilemmas, and solutions*. Albany, NY: State University of New York Press.

Wehlage, G.G. & Rutter, R.A. (1987). Dropping out: How much do schools contribute to the problem? In G. Natriello (Ed.), *School dropouts: Patterns and policies* (pp. 70-88). New York: Teachers College Press.

Wehlage, G.G., Rutter, R.A., Smith, G.A., Lesko, N., & Fernandez, R.R. (1989). *Reducing the risk: Schools as communities of support*. New York: Falmer Press.

Wentzel, K.R. (1991). Social competence at school: Relation between social responsibility and academic achievement. *Review of Educational Research, 61*(1), 1-24.

Werner, E.E. & Smith, R.S. (1982). *Vulnerable but invincible: A longitudinal study of resilient children and youth*. New York: McGraw-Hill.

Wigginton, E. (1989). Foxfire grows up. *Harvard Educational Review, 59*, 24-29.

Williams, J.H. & Muehl, S. (1978). Relations among student and teacher perceptions of behavior. *Journal of Negro Education, 47*, 328-336.

Willis, P. (1977). *Learning to labor: How working class kids get working class jobs*. New York: Columbia University Press.

Willis, S. (1991). The complex art of motivating students. *ASCD Curriculum Update, 33*(6), 1, 4-5.

Wilson, W.J. (1987). *The truly disadvantaged: The inner city, the underclass, and public policy*. Chicago: University of Chicago Press.

Wimpelberg, R. (1987). The dilemma of instructional leadership and a central role for central office. In W. Greenfield (Ed.), *Instructional Leadership* (pp. 100-117). Boston, MA: Allyn & Bacon.

Wimpelberg, R., Teddlie, C., & Stringfield, S. (1989). Sensitivity to context: The past and future of effective schools research. *Educational Administration Quarterly, 25*(1), 82-107.

Winfield, L. (1991). Lessons from the field: Case studies of evolving schoolwide projects. *Educational Evaluation and Policy Analysis, 13*(4), 353-362.

Winfield, L. (1991). Lessons from the field: Case studies of evolving schoolwide projects. *Educational Evaluation and Policy Analysis, 13*(4), 353-362.

Wise, A., Darling-Hammond, L., Berliner, D., Haller, E., Schlecty, P., Berry, B., Praskac, A., & Noblit, G. (1987). *Effective teacher selection: From recruitment to retention-case studies*. Santa Monica, CA: Rand.

Wittrock, M. (Ed.) (1986). *Handbook of Research on Teaching*. New York: MacMillan.

Wolf, D., Bixby, J., Glenn J., III, & Gardner, H. (1991). To use their minds well: Investigating new forms of student assessment. In Grant, G. (Ed), *Review of Research in Education*, Vol. 17 (pp. 31-74). Washington, DC: American Educational Research Association.

Woodson, R.L. (1981). *A summons to life: Mediating structures and the prevention of youth crime*. Washington, DC: American Enterprise Institute.

Wright, W.J. (1991-1992). The endangered black male child. *Educational Leadership, 49*(4), 14-16.

Wynter, S. (1992). *Do not call us negroes: How "multicultural" textbooks perpetuate racism*. San Jose, CA: Author.

Yamaguchi, K. & Kandel, D.B. (1984). Patterns of drug use from adolescence to young adulthood. *American Journal of Public Health, 74*, 673-681.

Young, T.W. (1990). *Public alternative education: Options and choice for today's schools*. New York: Teachers College Press.

Zeldin, S., Rubenstein, M.C., Bogart, J., Tashjian, M.D., & McCollum, H. (1991). *Chapter 1 beyond the elementary grades: A report on project design and instruction* (Contract No. LC 89089001). Washington, DC: U.S. Department of Education.

Zinsmeister, K. (1990, June). Growing up scared. *Atlantic Monthly*, pp. 49-66.

Zuckerman, B., et al. (1989). Effects of maternal marijuana and cocaine use on fetal growth. *New England Journal of Medicine, 320*, 762-768.